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42nd *Anniversary*

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Proceedings of 1952 Annual Fall Conference

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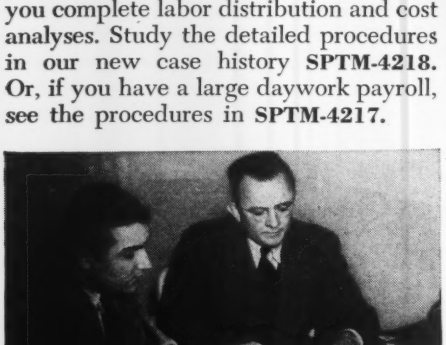

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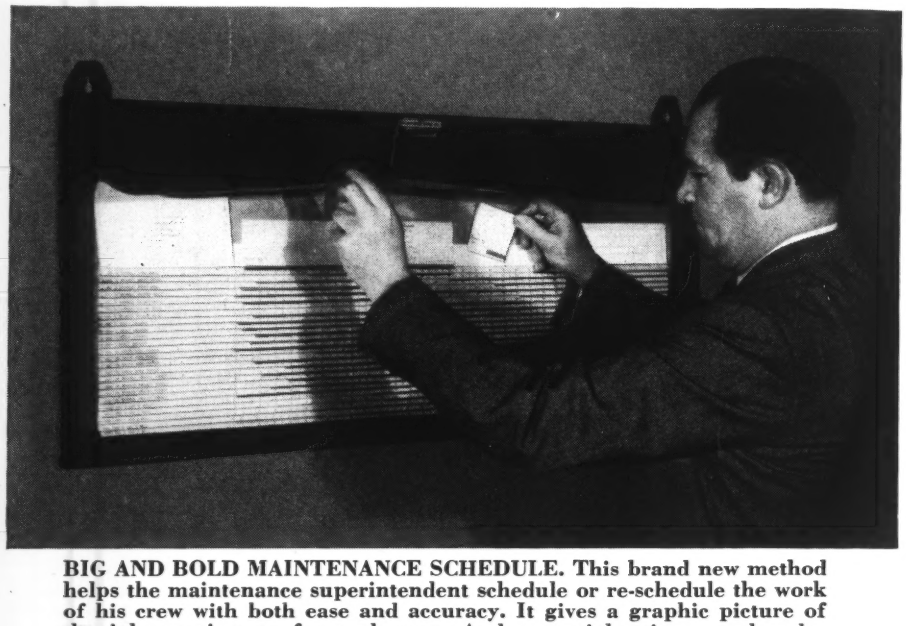

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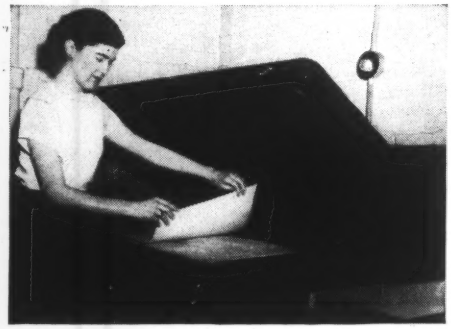

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combined with MODERN MANAGEMENT

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Welcoming Address

By Edward W. Jochim

President, SAM, 1952-1953; General Manager, Personal Products Corp.

OUR Society is unique in that we are the only organization for all levels of management. With all the benefits of a strong national organization, we are still a "grass roots" movement with most of our activities decentralized to our more than 50 local chapters and 100 student chapters. Our financial support comes entirely from the dues of the members and the modest registration fees for activities such as this Conference.

We have been holding Conferences since 1911. No two Conferences are ever identical. There are always changes in the subject matter, the facilities, and the way it is handled, in an effort to make each succeeding Conference of more value to those attending. This 1952 Conference is no exception to our 42 years of tradition.

At the second Western Hemisphere Management Conference, held as part of the Centennial of Engineering, in Chicago, September, 1952, Col. Lyndall F. Urwick in an outstanding address stated:

> "Management is not a science; it is difficult to contemplate that it will ever become a pure science. It is an art. But it is an art which can be practiced in one of two tempers. There is the temper of the old-time craftsman, who was merely apprenticed to a master, who learned his craft unsystematically by trial and error and practiced it in the half-light of custom and tradition. Or, there is the temper of the modern medical man, who knows that his skill is based on a score of underlying sciences and can only develop by development in those sciences and their application, who realizes that 'clinical experience' does not mean his personal history but scores and hundreds of 'cases' which provide an adequate statistical answer to some problem, who recognizes that in the interest of his patients, he must often use imperfectly formed judgment, but tries his utmost to insure that, when he does so, his mind is controlled by the objectivity, the respect for facts, and the care in amassing and assessing all available data, which are the hall-marks of a true scientific training."

Obviously, you people are of the second temper to which Col. Urwick referred. You are here because you recognize that the ever increasing complexity and new challenges to management require ever better management.

Self development by men aspiring to management, although powerful, can no longer supply our management needs in quality and quantity. Many companies have recognized the need and are organizing, planning, and controlling the development of more and better management men. Even a quick look at what has been done in this area, what is being done, and what needs to be done to meet our management needs, indicates programs of tremendous breadth and depth, requiring major time, effort, and expense. Today we face conditions that require us to use effectively all the art and science of management in the field of executive development.

Our Conference program states: "We have brought together some of the best minds in industry, education and government to report, analyze and discuss both individual and company problems and opportunities in executive development." This is a particularly fitting role for our Society because we were the first to recognize management itself as a profession separate and distinct from all the other professions.

In order to extract the maximum benefits from the papers to be delivered by such outstanding authorities, let us take a moment to place the organization of this conference in proper perspective. The science of management has been utilized fully in the development of the program.

We start, of course, by analyzing the need for executive development and what it takes to be a good executive. This is logically followed by authoritative presentations of management's two most discussed and yet unsolved problems: the fundamentals of getting work done through others, and the art and science of communication. One of today's sessions will be devoted to the trend of business.

The afternoon seminars follow logically—how to train others to be good managers and how to train ourselves to be better managers. Both are of major interest and importance, both will be handled by outstanding men. Whichever one we attend, we can read about the other one in the PROCEEDINGS.

Our Federal Government is the world's biggest business. At this time, Government even controls the trend of business. So we give its needs and contributions full consideration at another session.

Tomorrow we will start with a change of pace, but well on target, covering the major tools for executive development. With our tremendously improved means of transportation and communications, the international scene, too, has assumed a major role in influencing executive decisions. A later session will cover this scene.

Sound management decisions come as a result of analyzing basic trends in such fields as management, labor, marketing and design. Seminar sessions have been provided in each of these fields. Again, you are faced with attending one of these sessions and reading about the others in the PROCEEDINGS.

We will then have completed, as well as can be done in two days, this Conference's aim to inspire and further the development of higher qualities of leadership in management.

Time does not permit me to dwell individually on the many outstanding recognized leaders in their respective fields, who are giving so generously of their time and energies, without compensation to make this program possible. The respective session chairmen will have a better opportunity to tell you in detail about these public spirited leaders. However, I simply cannot pass up any opportunity to express my own and the entire Society's deepest appreciation for their contributions to this Conference. To all our outstanding session chairmen, members of the Conference committee, members of our staff, and the many members, who, without definite assignment to this Conference, are contributing much to its success, goes my heartfelt gratitude.

The Need For Executive Development--What It Takes To Be a Good Executive

By Peter F. Drucker

Professor of Management, New York University; Consulting Editor, Research Institute of America

I THINK all of you know that there is probably no other development in American management that has ever moved ahead so very rapidly as the interest and concern with executive development. Fifteen years ago when I first became interested in this, there was, to my knowledge, only one company in this country which did anything in this field, Sears Roebuck. They were in an extremely unusual situation, and considered their program an emergency program to meet the problems created by explosive expansion. About nine or ten years ago when I first tried to study this program, there was not one single line in print that dealt with it. Today, as you all know, we have produced a couple of libraries on this subject, and every company I know is doing something in the field, or is at least talking about what they should be doing.

I have never seen anything move so fast and become so generally accepted as executive development. Yet, frankly, I am not particularly happy when I look around at my friendly managements, at my clients, and look at the literature. I am not happy because I can't help but feel that this may very well turn out not to be a sound, solid basic development, but one of those management fads which we seem to go in for once in a while with a great blaring of bugles and waving of banners, only to march up the aisle and to march down again.

It seems to me that we are concentrating, as we so often do, on particular gadgets, on methods, and are in danger of forgetting what we are doing and why. It seems to me, above all, that a great many managements rush into executive development as something that must be good because the other fellow does it; or because SAM and other management organizations talk about it. And such managements rush into executive development in many cases, I believe, in the wrong way, by thinking that this is a technique for which you hire yourself a technician, pay him as little as you can get him for, and then leave it to him.

I am, therefore, not talking about methods and techniques because you are going to hear others talk about them. There are people in this room and people on our speakers' list who are much better qualified than I. I shall try to remind you of why we should be doing executive development, what its reasons are, what its objectives should be, and some of the things one should keep in mind in order to have a program that is sound.

Let me say I believe that there are few things which are so important, not only to the individual business but to the c untry, as a sound executive development program to meet the problem of, where do tomorrow's executives come from? Now when you talk to management people about executive development and why they are interested in it, they rightly and understandably begin with the needs of their own company. Frankly I don't think that is the starting point. I think there is one aspect of the concern for tomorrow's management which we, in management, tend to forget, but which may very well be as important as the contribution to our own business and to American management in general.

The question of tomorrow's management is, above all, a concern of our society. Let me put it bluntly—we have reached a point where we simply will not be able to tolerate as a country, as a Society, as a government, the danger that anyone of our major companies will decline or collapse because it has not made adequate provisions for management succession.

Unless we in management anticipate this responsibility and can prove to society that we can take care of this problem, we are bound to get government regulation. This is one of the areas in which an industrial society will be left to private enterprise only if private enterprise can convince the public that it is doing a job and is recognizing its responsibility.

Let me say that the public is not interested in who is going to be president or vice-president of your big corporations. It does have a vital interest in there being adequate provision that it will be somebody who is properly qualified and properly trained to whom this enterprise can be entrusted. I think that, beyond the needs of the individual enterprise, will be a social demand and social pressure, resulting in government action if it appears that a large corporation would be left without adequate management.

There is also another aspect of public interest in this whole area. It is quite obvious that for most of our citizens, the corporation is the place in which, and to which they look for the fulfillment of their aspirations, their hopes, and the basic beliefs and promises of our society. This simply says that this is a business society in which business has become the dominant and central institution, and the community for the majority of our people. This is an employee society, and we all know that.

UNDERSTANDING AND ACCEPTANCE. This means that increasingly people will look to the corporation and will say, "Are its approach and methods in the election of executives, within shouting distance of the things we in this country believe, we in this country were promised?" Above all, does business practice the belief in equal opportunities which it preaches? The place where this question will be raised, and is being raised, is in the election of tomorrow's executives. Any executive development program which formulates its aim and objectives purely in providing the company with enough men tomorrow to fill the vacancies caused by expansion is going to do only half the job, and maybe not the most important part.

There is a basic problem that any management development program *must* be attacking—it is giving as many men as possible as many opportunities as they deserve. The program must be focussed on the fullest utilization of the citizens whose careers we decide in management.

This means simply, and it is not so easy and simple to do it, that it isn't sufficient to say, "I have provided for all the vacancies which will come up tomorrow. I know who is going to move in." The question is not only, "Have you really looked to find the best people, or have you just been satisfied if you found someone that will do the job?"

The question is also, "Have you developed your whole program in such a manner that to the people in your company this is a rational, a just, a fair and understood approach?" That, believe me, is one area where a good many management programs, I know, are woefully weak. They are not even understood, let alone accepted as rational by the vice-presidents, certainly not by the people who are being measured, selected, appraised and looked at. They are not sufficiently aware of the fact that the management development program is only a technical name for that system by which we, in this country, will fulfill our basic political and social promises to the great majority of our citizens.

No management development program should be completely ignorant or unaware of these social and political occasions, as if you dealt not with people who look to the company for the fulfillment of basic citizenship problems. No management handling executive development as if it is a packaging problem is going to last or is going to help the organization. It might give you very good executives,

but it will demoralize the organization and will, on top of that, do a great deal of harm to our free economy and our business system.

Don't forget that when you say executive development, you talk about people and citizens, and not about tools. Don't forget that for a moment, because you can only do yourself, company and country a great deal of harm.

PARTICIPATION. The next point I would like to raise is—forgetting what goes on outside our business—what do we want management development for in your business? What do we want management development to do for the business? The first answer is one which I hear far too rarely. We need management development for the simple reason that in an industrial economy, the management in power today simply cannot make proper, responsible and right decisions. It can only make guesses and depend on tomorrow's management to bail them out. Our basic management decisions—and that is true even for the corner cigar store—are 15-year decisions, whether they are on capital investment, on product development, on building an organization, on building a distributive system—every one of them is a long-range decision.

My consulting work is exclusively with top management problems, and I have yet to sit down with a client and discuss any decision, that will really come to fruition within 18 months. Five years is a fairly short-range decision. May I say that this is a characteristic of an industrial system, and perhaps it is an outstanding characteristic.

Now, our friends in the Armed Forces, have known that for a long time, and hence their emphasis on the training of tomorrow's leaders. Management decisions made today which do not expressly or explicitly carry a provision for tomorrow's management are not really decisions. Just ask the question: could any management have made the right decisions on a ten-year basis in 1937? It wasn't only the depression that was not foreseen. It was something less likely than a depression, the beginning of a period of the most rapid technological change. Any economist would have told you this could not have happened. Could any management in 1937 have foreseen that we would have a major war? That, I think, could be foreseen, but who could have anticipated the greatest peace-time boom we have ever seen.

Is there any reason to believe that decisions on plant expansion, product development, research, marketing, personnel, labor matters, which we make today, are any more likely to be based on a correct appraisal of the future? I don't see why anybody in management would assume that he can predict the future today when it is quite obvious that it can't be predicted.

Therefore, responsible management decisions can only be made if you have the people participating that will carry out the decisions.

FORTUNE this month has a very interesting study of the large corporations which shows that only one out of nine of the presidents and vice-presidents of our largest corporations are under 50—and that, I think, is fairly typical. That, incidently, is probably as it should be. I have a horror of boy scouts in high places.

That simply means that the people who make the decisions today won't be around tomorrow. They are busy bailing out of the decisions of the previous people. That means that you must have a commitment to tomorrow's management or else your decisions are baseless. That also means that those people who will have to bail out the decisions tomorrow—let them be in on the other decisions so that they know what they are going to have to live with.

It means that your management development program should, above all, try to bring your second and third team into top management thinking, into at least a spectator role, for the simple reason that what goes on today will be their job, their problem, their headache tomorrow. That is the main function of a management development program.

PROBLEM OF SPECIALIZATION. Let me say one more thing about how management develops. It is quite obvious—and incidently let me say it is quite natural—that a business does not automatically produce natural leaders. No institution has ever done that. There is no reason for criticism or for breast beating or even for amazement, that the business in many important respects, not only fails to train and to test a young man for leadership positions, but in many respects develops him in the wrong direction. This is a very normal problem. If you look at the Catholic Church, which has certainly one of the most successful records of management, there is no doubt at all that being a Parish Priest is about the worst preparation that there could be for a bishop. It emphasizes all the wrong things. There is no doubt that if you look at the command positions in the Air Force the training of a fighter pilot emphasizes all the wrong qualifications for a command position.

Yet, where else would leaders come from? There is no doubt, in other words, that every single institution has had the problem that the demands made on the young executives were exactly, in many important aspects, the opposite of the things that are needed for the command and leadership positions.

So we need not be perturbed by the fact that business is no different. But if you look at it, what are the most obvious problems? Well, the most obvious problems are, first, that our industrial and business strength rests upon specialization, so that in a man's formative years, there is a tremendous premium on his becoming more and more specialized. Maybe we overdo it, but let me say that no attempt to emphasize the generalization at the lower and middle levels of management will be more than a very minor offset, because in the job of a man's formative years, until he is about 35 or so, inevitably the emphasis will be on his becoming really and thoroughly competent in one special function.

TESTING THE MAN. There is another problem. All of us are familiar with it. It is a much bigger problem than specialization, namely that we don't really know a thing about the man's ability to make decisions and to run the business until he is tested under actual conditions. Dry runs are not a sufficient test. I don't know whether you have heard of the once-popular parlor game of running a fictitious stock market account. A girls' school class in economics and finance always does that. Place the stock market on paper. I have yet to hear of anyone who always took a loss! They always came out right! It is easy to see why.

For that same reason, no appraisal of a man, no attempt to find people, no performance in a job can possibly be a real test of what a man will do, how he will do when he is on his own and has to make the decisions and has to take the responsibility.

Therefore, we have a real problem of testing people in actual, not in simulated battle conditions, but at a time when their failure won't mean danger to the entire organization.

ORGANIZATION ASPECTS. Those are our major problems, and let me say it is quite clear that they cannot be lifted by a program of executive development alone. They are as much organizational problems as they are problems of developing individuals, for an executive development program which does not start out with the realization that maybe you have to make major changes will degenerate into a program that tries to cover up cracks in the foundation by putting a nicely colored wallpaper over a six-inch crack, hoping not only to keep out the draft, but to keep the structure going. Realize the basic crack is the crack of the organizational structure, and that you cannot develop men against the flaws of the entire organization structure in which they live.

If your organization is of such a nature that it accentuates the difficulties which business has naturally developed, no executive development program will do any good. It will create a great deal of false hopes and a great deal of frustration, and it will be as effective as putting wall paper over the cracks in masonry. So don't just look at this program of people. This program has to be equally focused on the organization, or else it isn't going to do any good.

You cannot assume that the present organization is right. It might be or it might not be. How do you know without looking at it?—which incidently means that this is not just a problem for a technical specialist, though you may need one

in large corporations. This is a problem for top management.

CHARACTER AND INTEGRITY. Finally, and this is the last thing I want to say, the reason why I am really unhappy, frankly, about how much I see going on, is that there is so much talk about skilled knowledge, intelligence, but very little realization to realize that the important qualities in a manager are character and integrity. You and I know it. As a matter of fact, I think that distinguishes a child from a grown man. Until you learn that intelligence is a drug on the market, and about the most useless commodity there is, if there is nothing else in the man, unless you realize that character is not only always more important, but will in an amazing majority of cases win out—until and unless you realize that, you haven't grown-up. You are still a sophomore, because that is what we mean by sophomoric. Most managements do not realize when we talk of management, we do not primarily talk of the intellectual gift. We talk primarily of character and integrity, which are very hard things to measure. When you sit down with two or three of your company associates, and you talk about "Jimmy Jones down there," you may have grave doubts about his ability, but I think you have very little doubt about his character.

You know all this, and yet we don't recognize sufficiently that we are looking for people of character and integrity to discharge this tremendous managerial function, this key function of our society, a new function, and the one on which our society stands or falls.

The importance of character and integrity in management cannot be stressed too much. Top management is not merely responsible for identifying these traits. More important it is responsible for preserving the character and integrity of the individual. I would say that the first responsibility of management is not to destroy character and integrity, but to maintain and develop these traits. To me the sign of a really successful organization is its ability to bring out of its members more than they really possess. That may sound queer until you realize that the truly successful institutions in history have accomplished precisely this.

CONCLUSION. In conclusion, let me say that I am critical, not because I doubt the value of executive development, I am critical because I have a very deep understanding of its importance. To me executive development is the product of two major changes. First, over the last 40 years, we in this country have developed a new basic social order, a step in the evolution of the race, I think, in many respects as great as the one that occurred from animal to man. The development of management is a tremendous step. The development of a society in which there is a management function is an equally tremendous step. I think in retrospect it will appeal to the historian 200 or 300 years hence as a great revolution of our times.

The second reason why I believe that this is important is that the emergence of management also means that business has come of age, that it has become a social institution that will and can survive. It has emerged as a new way of organizing people to basic social ends for the greater good of society and of the individual. This simply means that, as an institution, business has the same problem every institution has, which is that foremost question, "Who will be our leaders tomorrow?" We are not overdoing executive development; we are probably still under-concerned with it, but we are not perhaps sufficiently aware that we are not talking about technical functions, but if I may manhandle a biological metaphor, we are talking about the basic reproductive functions of this new organism we created, modern business.

This is not purely a matter of technique. This is a matter of objectivity, of principle and of greater clarity, what we are doing and why. This is perhaps a central management principle and function, because our business, our business societies and our American system are only as strong as the ability, the competence and integrity of the people who will take over where we will stop, who will be our managers of tomorrow.

INDUSTRIAL RELATIONS CONFERENCE SCHEDULED

THE Twin City Chapter of SAM and the Industrial Relations Center at the University of Minnesota are jointly sponsoring the Eleventh Annual Industrial Relations Conference, on April 14-15th, at the University of Minnesota.

The theme of the Conference is "Communications in Employment Relations." Speakers will present new developments and ideas in the field of employment relations with attention to communications aspects.

The program is organized on a functional basis to focus on such aspects of communications that seem to need emphasis. Attention is being devoted to the development of a well-rounded three-way communications program in a company.

Fundamentals of Getting Work Done Through Others

By Frederick G. Rudge
Partner, Fisher, Rudge & Neblett, Inc.

MY FIRST question to this audience is, "Should we ask ourselves how do we, as executives, *get more work done through people?*"

Or, more realistically, should we ask ourselves, "Are we just plain *lucky* that we get as much work done as we do?"

All of us here are probably in agreement with a recent statement of Eugene Holman's. Mr. Holman emphasized that the key which unlocks the greatest energy source of all is the infinite power of the *human individual.*

How many of us can claim in this fast-changing world in which we live that our success as individual executives in unleashing this infinite power is based on planning more than it is on good luck?

Fortunately, we do at least appreciate that we have a problem. The problem is that the highest pay in history and the many benefits accorded workers have tended to be accompanied not by an increase but by a decrease in individual satisfaction and cooperation.

In the automobile industry, for example, the remark is commonplace that the average shop employee could double his output and not strain himself. A newspaper official recently confided that the advantages his paper gained through installing faster presses were being cancelled out by his increased payroll. "We always end up with more employees than we had before," was his verdict.

We all know of similar situations. Things take longer to get done—and the higher the participation of humans, as compared with machines, the longer the time involved. It is a paradox of our age that you can send 3,000 words per minute by facsimile, but a first class letter can still take two days journeying from Wall to 47th Street.

Common sense tells us that there is vast room for improvement—that many people could accomplish more if they tried, not just at the factory level, but throughout the entire organization. "They just aren't interested," is a frequent verdict, whether you are talking to a bank president, a department store head, or a garment manufacturer.

It doesn't take much research to establish that this increasing degree of disaffection is co-existent with the highest material rewards—before taxes—our world has ever known. I refer not only to direct compensation, but also to the many types and varieties of employee benefits, including pensions, paid vacations, sick leave, hospitalization, and the like—plus countless varieties of privileges, prerequisites and special emoluments that come under the heading of "non-financial compensation."

Why, then, are we getting *less* rather than more cooperation and efficiency? What are the root causes of our trouble? Are these root causes exclusively related to paying still larger wages and granting still larger benefits? The answer would seem to be no.

Certainly we have not seen any new energy and new enthusiasm released in the last decade as our workers have made gain, after gain, after gain in economic benefits. The average worker's real wages were 35 per cent higher last year than in 1938. In 1929, 90 per cent of the nation's families received only 54 per cent of all the income paid to individuals: in 1951, their share had gone up to 71 per cent.

If economic benefits aren't the answer, what is?

A FRESH LOOK. In isolating the root causes of our trouble, perhaps what is called for is a fresh look. First, a fresh look at our own thinking and secondly, at those people whom we seek to lead.

As to our own thinking, let's ask these questions. Are we attempting to run our businesses in the year 1952 with a 1900 concept of social values?

Have we learned how to manufacture better and better products, but failed to learn how to create a more satisfying life for those who make the products? We recognize that there is no place today for the Model T Ford, but we're guilty of expecting that those who make jet engines will be satisfied with assembly line living—comprised of 20 parts frustration and one part fruition.

A succession of reasonably wise students of mankind have observed that men don't live in order to work, but work in order to live. Most of us agree. But, notwithstanding, are we as executives thinking in terms of an eight-hour day relationship with our people, instead of constantly reevaluating how the work we expect people to do affects not a part of, but all of their daily lives?

Do we, for example, exemplify our inquiring minds by doing a good research job in the areas of changing social values and worker motivation? In my own work I find that the average corporation spends a fraction of 1% in human research as compared to expenditures of hundreds of millions of dollars in technological study.

I find, too, that many executives are extremely articulate about the dangers of socialism. But, their enthusiasm runs more to 19th hole conversation than it does to examining into those satisfactions that will make the American people more satisfied with an enterprise type of economy. Or, to put it another way, perhaps we, in management, should spend less time worrying about expropriation through socialism and more time learning how to adjust ourselves to a new set of conditions. History warns us that we should, since most social revolutions stand as tombstones over the graves of stubborn kings.

Let's examine some of the satisfactions which are businesses' franchise for being allowed to exist in a reasonably free economy.

EXECUTIVE SATISFACTION. First, let's talk about executive satisfaction; not just to please my audience, but because it has long been clear that a happy boss is precedent to a happy worker.

1. What can, and should we who are executives expect in our later years?; 2. what kind of family relationships do we hope our jobs will permit us to have?; 3. what kind of an environment do we think it's right to enjoy while we are at work?; 4. what about our community life?

Check you own thinking about some current concepts on executive retirement. What are reasonable executive satisfactions in this area?

Should you be expected, after a lifetime of effort, to have to cut your standard of living to 50%—or even 40%, or 30% of that to which you have become accustomed?

Having slaved for years in order to build up a body of experience and the wisdom that goes with it, are you to be told that yours is the executive junkyard at age 65? Are you going to be happy to have your ability make a continuing contribution to your company measured by a 50¢ calendar as against a fair and realistic appraisal of what your talent and health really permits?

What standards, if any, you may fairly ask, is my top management applying to the question of retirement? If they are thinking at all, are they thinking in terms of 1900 when the life expectancy was 48.2 years, or are they thinking in terms of 1952, when it has increased to 65.9 years? (Perhaps, in fairness, I should add that these figures are national population statistics for white males. In this day and age of government regulations, *of executive ulcers,* and confiscatory taxation any relation that national statistics on longevity have to executives' statistics are undoubtedly purely co-incidental.)

In any event, it is clear that our former concepts of what constitutes an old man are becoming increasingly meaningless. A 65-year-old man dramatized his feelings this way. He sent the company President a snap shot of himself carrying a deer slung along his shoulders. Inscribed on the back was this message: "Who says I'm too old to handle my job?"

Ben Lindberg, Associate Professor of Business Administration at Harvard Business School, looks at the question of geriatrics more statistically but with some quite dramatic findings. His studies indicate that the white male, born in the year 2,000, will have an expectancy of something over 120 years.

Mortality statistics show that approximately half of the executives who retire at age 65, die before age 66. The other half, after the weeding out of the group who cannot adjust, goes on virtually indefinitely. Most companies seem to be doing little to modify the shock of retirement through pre-retirement programs or to find a basis for predicting, medically or otherwise, which of the oldsters should be pensioned and which should be allowed to continue contributing to their companies until they qualify for the "Life Begins at 80 Club."

Standard Oil of New Jersey, by the way, is one of the pioneers in recognizing and taking action in this area.

So much for the executive's later years. Now what of the bearing of the executive's business life on his relationships with his family. What satisfactions are you deriving? What satisfactions do you deserve? It is not a common misconception that executives live exclusively in order to be able to carry a loaded briefcase home on the 6:03, or to devote their energy and their thinking to their work on Saturdays, Sundays and holidays.

Part of our executive folklore is that true executive nobility goes hand in hand with complete dedication to the job. How many of you, for example, have broken dates with your wife, or your children, in order to take on a special rush assignment in Washington or a fire-engine job that has to be taken care of *immediately* on the West Coast? Most of us have had the experience, not once but many times. Moreover, many of us have found that our superiors sulk when we don't respond to the challenge with a happy grin. Sometimes it seems to me, and perhaps it has seemed to you, that the mystic sense of devotion of an executive to his job is supposed to exceed that which the Church expects of its most ardent converts.

Executives (as do most people) know that their love of family and responsibilities to them cannot be discharged by absence. Does this call for recognition? Should we, when we rob a man and his family of irreplaceable satisfactions, demand he take time off—not as a reward but as fair and just payment? It is not impossible that such action, through promoting family stability, would pay off by promoting executive stability as well. Maybe an executives' union contract is required, with a clause entitled, "time off to be sentimental"—the time off preferably, of course, with the executive's own wife, who in this day and age is usually an "office widow" rather than a "golf widow." Speaking of time off, is our thinking about executive vacations attuned to the special pressures we face? Two weeks wasn't ever made sacrosanct by heavenly blessings—nor is three weeks necessarily ultraliveral. Even from a strictly commercial point of view, it may pay to trade much longer vacation-rest periods for protection against executive loss through thrombosis.

Executive satisfactions, or lack of them, in one's community life bring to my mind the current Broadway hit, "Point of No Return." Those of you familiar with the plot know that not only bankers are to be found among the group whose country club, bridge group and Saturday evening barbecues are inextricably woven into their business life.

Many of you here are familiar with

plant communities where the social group and the business group is one and the same. Such situations, of course, make it very easy for the ladies to convene in one corner where they discuss the children, the cost of food, and yesterday's bridge luncheon. (To "bridge luncheon," Mrs. Rudge took violent exception and demanded substitution of PTA, Community Chest and McCarthy.) The men, meantime, in another corner can review business affairs virtually without interruption. However, it is a moot question just how much relaxation and diversification this provides the executive.

Perhaps you are saying, "After all, isn't it up to the individual to shape his own out-of-hours life?" Is this realistic? In one company, the President has asked his executives not to go away for the weekend without being sure to let him know in advance as he is apt to want them. Even where the President is more relaxed, the individual may well feel that if he is to get ahead he must follow the accepted pattern of behavior of the rest of his fellow-executives.

What's the answer, then? As in most of this effort to broaden our thinking about human problems, I'm hopeful only to encourage you to recognize that certain problems exist. I am confident that once problems are recognized by intelligent men, a gradual evolution toward more enlightened practices is assured.

FINANCIAL ASPECTS. I had hoped not to dwell on money issues in my presentation. However, I feel that it should be noted that many executives are expected to keep up with the Jones', in a fashion which their title and the prestige of their company supposedly demands.

Nice houses, in the right part of town, belonging to the proper clubs, and entertaining often go with the title of Vice-President—and don't think for a moment that because executive orders have not been issued as to what is considered appropriate that the pressure to conform is any less. Of my own personal experience I can cite chapter and verse on unlucky members of the management fraternity who, in the process of "living up to the Jones'," haven't been able to go to the dentist for a period of years.

The solution, you may ask?

Believe me, gentlemen, I am not suggesting an increase of the salaries of all concerned. I do suggest that each management very thoughtfully evaluate what kind of a "show" it is necessary for its executives to run at home. If putting on "quite a show" is a "must," see to it then that your people get the wherewithall.

Again on the community front, it is to be remembered that business, and business executives are moving from place to place with greater rapidity than ever before in history. Some companies have realized that moving one's goods and chattel anywhere from several hundred to several thousand miles does cost money. I want to go beyond those companies who pay 50% of the moving cost to those very few companies who realize that there is a psychological, as well as a financial, problem involved. One insurance company, State Farm Mutual, for example, made every possible effort to help orient a large number of its employees when they were moved to Texas about a year ago. Not only was information provided on schools, amusements, transportation facilities, churches and so on, but welcoming committees were formed so that the newcomers could receive a warm welcome from their new community neighbors.

SENSE OF PURPOSE. The 9 AM to 6 PM area of executive satisfactions is naturally the area to which the most thought has been given. By now the basic principles on how to build understanding and elicit enthusiastic cooperation from others during office hours have been spelled out not hundreds, but thousands of times. I would under-estimate your intelligence were I to discuss at any length such truisms as: each man must clearly understand his responsibility and his authority; or, an opportunity to participate substitutes fruition for frustration; or, communication down, up (and sideways) is the blood stream of high morale as well as of effective operational practices.

For any of the students that may be in our group, however, I will refer to an excellent article, "Thirty Rules for Getting Things Done Through People," which appeared in MODERN INDUSTRY on November 15, 1938. This comprehensive check list emphasizes that the executive who is successful in getting others to do work is the executive who (I) does delegate responsibility for details to subordinates; (II) does let assistants in on plans and programs, even when they're in an early stage; (III) does keep people informed on matters affecting them—not to mention; (IV) being a good listener; (V) criticizing or reproving in private; (VI) giving credit where credit is due.

Most executives, I do maintain, know the work-day principles of sound management of people. Why then aren't we getting better results?

Is it possible that we assume that learning the rules assures their subsequent practice? Not all Boy Scouts who learn their creed by heart follow it, nor do all executives who make speeches at the Statler behave as well as they preach. Our problem, I suggest, is perhaps less a question of memorizing principles than it is of innate philosophy. Or, to put it another way, we're long on technological skills and short on a sense of purpose; without which the technological skills can be only partially effective at best. This is why I feel that a look at the troubled humanity in each one of us is more important than an examination of the untroubled technician. One facet of that troubled humanity, I encounter frequently, is in the area of doubt. How many of us, I wonder, at 2nd, 3rd and 4th echelon of management are not really convinced as yet that the practice of good human relations is a major factor in our personal advancement?

Nor where we are not convinced, is it difficult to understand. One rather well-publicized company, with Chicago headquarters is not exactly typical of executive turn-over in business generally. But it is certainly not the only company run by men brought up in an autocratic school of practice dedicated to the propositions that "the boss is king," and "profits are the only reason we are in business." With not a few of this old-line executive type, only retirement or death are the solution.

Even if we turn to those companies whose executives preach a more modern and liberal type of management, there are many reasons why the individual executive may ask himself, "Do my superiors preach one kind of a philosophy but in reality practice another?"

For example, we have in our office a number of statements of corporate policy. These are frequently called "Our Creed." They state that management expects and wants to pay fair wages, provide benefits up to the standard of the community and industry, treat its people with dignity, provide the opportunity to participate, and so on. In many cases such policy statements are not considered dangerous by management because, after all, unions have already forced management, in most of the areas, to live up to them anyway. Conversely, in other parts of our business establishment where we aren't made to behave, some pretty embarrassing questions could be asked.

For example, despite "Our Creeds" have our white collar workers kept pace with our production workers? Do we agree at meetings like this one that management had better be more liberal in its handling of clerical people but fail to take action once we return to our offices?

Do you think that if you found a clerical union banging at your doors next week—or next month—your company would behave differently then that it is doing right now? Would you, for example then become suddenly very interested in worker attitudes, in building morale, in giving courses to your supervisors in the fundamentals of handling people and in communications designed to help your people really understand your problems?

It is not difficult for me to remember the precedential Packard Motor Car Company case on unionization of foremen. I remember it well because I happened to buy a Packard at a time when it was clear that supervisors were spending their time exclusively on unionism rather than on supervising the production of cars that ran. Be that as it may, foremen unionization for the time at least was effectively stopped. Nor can I, in sincerity, say that I think it was entirely for the benefit of the supervisory force.

Your company may be right up to the minute on its wage and salary administration, but I can attest from experience that

not all corporations are. A typical situation was revealed as a by-product of a study we made recently where shift bosses in the mill were earning $535 to $565 a month and the men they supervised were getting as high as $708. The repair foremen were earning $30 to $70 a month less than the top five electricians under their direction. Nor, were the supervisors free of overtime responsibilities.

I cite these examples of the white collar worker and the supervisor because they do make many executives question whether top company management is practicing in an enlightened manner because it wants to, or because it has to.

Coming from Washington by plane last week I sat next to a highly intelligent and very successful business man. Our discussion concerned whether or not business men would behave if they didn't learn the hard way through years of suffering under such laws as the Wagner Act. My friend felt that force was the only answer.

ENLIGHTENED SELF INTEREST. I admitted that there were many areas where our philosophy and our performance does not yet measure up to the needs faced. I admitted that the mediocre executives in our midst would accept the old standards and would play the game of getting ahead personally on an "I'll keep my nose clean" basis. Other executives, I maintained (and they are increasing in number) will have the initiative to study, the brains to analyze, and the guts to enforce improvement.

These are men whose zest for life prohibits exclusive interest in resurrecting former ways of living and permits their constantly vigilant interest in the kinds of people whom they seek to lead. The kind of executive I am talking about probably not only read Fenton Turck's compelling article, entitled "The American Explosion," in the September issue of SCIENTIFIC MONTHLY but passed on copies in turn to a number of his associates. He did so because he appreciated that "the American explosion" has to be properly evaluated, if we are to understand American men and women and the changes in their desires and their sense of values. And how we have changed!

We are becoming a nation of home owners. 54% now own their homes—with all of the increasing degree of stability and financial responsibility that this entails.

We are considered to be baseball crazy, but Americans spent more dollars going to classical musical concerts in 1951 than to baseball games.

Television and radio, we sometimes think, have killed our interest in books. However, in constant dollars, 96% more was spent for books than was spent a decade ago.

Rather, however, than steal all of Fenton Turck's findings on the mobility of our population (141,000,000 people moved to homes in the decade 1940/50); on our travel habits as a nation; on what's happening in education; and so on, I repeat that this perceptive article appears in the SCIENTIFIC MONTHLY.

The same executive who is excited enough to study and to pass on the kind of material just discussed, may well be delving into other questions such as these.

He may ask himself: "What has happened to the motivations of the employee who in the 1900 period could, with relative ease, start a small craft shop or business of his own?" That the challenge of that opportunity no longer exists to the same extent in an economy where the investment in capital equipment and research per worker may run from $10/25,000 and where not one, but hundreds of workers of necessity have to supplement each others activities.

What new and effective substitutes exist to replace the desire to own one's own business? Many avenues of inquiry may be explored. Our thoughtful executive may look into cases like that of a hotel organization where the use of committees to consult on matters formerly handled exclusively by top management had an excellent effect on operations and an electrifying effect on morale. He may want to look into cases like that of a garment factory where participation by employees in establishing their own incentive rates has practically eliminated complaints. He may find an interest in an orientation program which put small groups of employees across the luncheon table from the company president, thereby adding new significance to their work.

He may reflect that people always like to keep score on themselves in terms of individual achievement as well as competition (golfers and bowlers, please note). He may wonder about the success of baseball players if the managers kept the score, but never told their players. One company whose executives were willing to think in these directions recently established a new clerical cost control system. Production yardsticks were worked out in cooperation with the operators themselves, and provision was made for using time saved for training. In 20 weeks, the overall efficiency of the department rose from 73.6 per cent to 86.1 per cent. The employees are pleased because they have standards to go by—standards which they understand and accept. They also like the program because they no longer feel compelled to "make work," or pretend they are busy as volume tapers off. They say that time goes faster, and they know they are doing a fair day's work. As a result, they have curbed their former tendency to visit back and forth between assignments, and there has been a marked improvement in regard to absenteeism and tardiness. This reflects a better interest in their jobs.

Each of you, I am sure, during your years in management, has seen an outstanding example of performance far beyond the normal call of duty. Let me cite a personal example.

A dozen years ago, when I was in the printing business, one of my pressmen—Joe, by name—ran his arm through a Miehle cylinder press. He was still unconscious when he arrived at the hospital 20 minutes later. Hours afterwards, that same night, I went back to the plant. The first sight that greeted my eyes was Joe standing on the feedboard running a press. For a minute I really thought I was looking at a ghost. It turned out to be Joe, in the flesh, who fortunately without broken bones had been thoroughly doped up at the hospital and had returned—arm in sling—to finish his job. After asking him, perhaps impolitely, "What the hell are you doing here?", he said to me, "Fred, you know perfectly well this job has to be out by tomorrow morning and there is no one else who could get it done." I recite this instance not as an example of good management on my part. My modesty is correctly attuned to the result of an attitude survey in our own offices, done unbeknownst to me by my research staff, several years ago. Believe me, I've been blushing ever since.

I told the story about Joe because it may recall to you your own experiences with people willing to go all out to get their job done, however impossible the circumstances. These experiences, believe me, are worth our remembering at least once a day as we seek, with proper humility, to influence others to work with us.

IN CONCLUSION. Management may be thinking too much about what it does *for* its employees and associates; that is, the material things, and too little about what it does *with* its people, in the sense of significant working relationships. Are we making whole people, rounding out their personalities, bolstering their identities, giving them *status* in their own eyes and others—or are we merely exploiting skills? Are we depending on financial compensation to *buy* loyalty, cooperation and teamwork—instead of earning those qualities by making the work itself interesting and significant?

Let's open our minds, let's study our people. Their infinite capacity to release new thinking and new energy for the benefit of us all will be our reward.

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The Growing Illiteracy

By Ralph D. Paine, Jr.
Managing Editor, FORTUNE *Magazine*

I AM indebted to an earlier speaker of the morning, Peter Drucker, for the idea of the talk I am making to you. He wrote an article which FORTUNE published last May called "How to Be an Employee." The article was couched in the form of a commencement address, and he was telling the aspiring graduate what he should know to get ahead in the world today. Drucker covered a lot of ground in that article, but there was one section that struck me as being so acute, so true, that I paid him about the highest compliment an editor can pay a fellow craftsman. I said: "I wish to hell I'd thought of that myself."

At the head of the list of the requirements for success, said Drucker, was "ability to organize and express ideas in writing and in speaking." Let me quote him directly: "As soon as you move one step up from the bottom, your effectiveness depends on your ability to reach others through the spoken or the written word. And the further away your job is from manual work, the larger the organization of which you are an employee, the more important it will be that you know how to convey your thoughts in writing or speaking. In the very large organization, whether it is the government, the large business corporation, or the Army, this ability to express oneself is perhaps the most important of all the skills a man can possess."

There are, of course, as Drucker points out, many other skills and attributes required of a successful executive. On reflection, I think you will have to agree that without skill in expression, either written or oral and preferably both, no man can rise very far.

That seems to me to be a good point for me to take off on the formidable assignment which you have given me—"The Art and Science of Communication." Let me add that I have simplified the assignment by striking out the word "Science." It's not in my opinion, a science even by courtesy. It is most definitely an art and I propose to treat it that way, in particular the art of writing and reading.

But before I do I would like to make one point. It is a point about this subject of communication in general.

COMMUNICATION IS SOMETHING MORE THAN AGREEMENT. FORTUNE has published quite a bit on the subject of "Communication" in the last two years and we have come to at least one firm conviction. That conviction is that, in the excitement of discovering the "Communication" problem, confusion of ends and means has occurred. Communication is a means to an end, not an end in itself. What is frequently called a "communication problem" is a simple matter of disagreement. Two men with identical information can with the greatest ease arrive at dramatically opposing conclusions. There are people, honest and patriotic people, who think that if we could only communicate better with the Russians we could arrive at "better understanding." I don't think we have any communication problem with the Kremlin: I think we know what they are up to and I think they know what we are up to. The two views happen to be—at least in the foreseeable future—utterly irreconcilable.

Much the same, I might add, goes for certain current political activities. Just let me see you convince a determined Stevenson "egghead" to vote for Eisenhower! Yet you are both in possession of the same information, both loyal and conscientious citizens, yet both think the other is just plain wrong—if you are lucky enough to keep your temper and refrain from calling him something worse.

What I am trying to establish is that agreement is not *necessarily* a test of success in communication. Because if we can establish that, we have cleared away a lot of nonsense that has grown up around the subject. I use the word nonsense advisedly. So much of the work being done by the people who have rushed into the subject of communication seems to have "agreement" as the ultimate touchstone—"agreement," "unity," "group harmonics"—or whatever new phrase the sociologist feels necessary to invent to get attention. We lump it all together under the term "groupthink." And "groupthink" is what we don't like. We think that people are kidding themselves if they think that communication will resolve all human conflict. Conflict is life itself.

Successful communication might be illustrated by an executive committee of nine men with a proposition before it. The research has been done and the results clearly presented. The members have done their homework; there is free exchange of opinion in the discussion; each of them thoroughly understands the proposition. Then a vote is taken. The results? Five to four in favor. A failure in communication? Would it have been any better if it were unanimous? I assume the Nays are not going to resign, that they will cooperate as willingly in furthering the project as if they had voted Yay—which is the way most successful business people operate. Yet, so many of our communication experts seem to think that unanimity would somehow be more desirable.

In short, my *caveat* on the whole problem of communication is select your ends before you select your means. Of course, if you select as your objective, making all the help love the boss, you may have trouble finding the means. The inclination to spit in the boss's eye is a very deep-seated human urge and neither the science or art of communication is going to change it much in, say, the next ten generations.

EXECUTIVE ILLITERACY. There is one thing we can do something about, however, and that is what I call the growing illiteracy of American business. This is not facetious. I am sure it lies close to the storm center of the communications problem. Wider education, better education, longer education is not producing business leadership that expresses itself with increasing vigor and clarity.

On the contrary, with some conspicious exceptions, the trend is all in the other direction. How often today you hear this curious prefacing phrase: "What he seems to be trying to say is this . . ." and then a paraphrase in your own words.

During my years on FORTUNE I have met a goodly number of the top executives of U. S. Industry. It is hard to generalize about such a group of strong individuals but I have been struck by one thing: By and large the self-educated men have better command of the English language. They talk better and they write better—even eloquently. The explanation I think is simple; they are better read. They read books because they wanted to get ahead; not only the technical books, or how-to books but good books, literature, the classics. They had a great incentive to learn, in many cases simply so that they would feel at ease with the boys from the Ivy League colleges. You don't read books that way at Yale—and I speak from personal experience.

The second thing I would say about top executives is this: The good executive can always describe his business accurately, with a minimum of statistics, and relatively briefly. He'll unfold a billion-dollar corporation before you in an hour or an hour and a half and make it more interesting than a good novel.

Yet these same men will appear on a public platform and deliver something that is hackneyed, trite and obvious. Why don't business men get their message across? I take it we all agree that they do have a message. Let's face it, one good reason they don't get their message across is that so many of their speeches are just plain dull.

They are dull for several reasons. One is that businessmen are frequently asked to speak on subjects they don't know very much about. Or to put it more precisely, they are not asked to speak about their own business or their own industry on which they are expert; they are asked to—or feel they have to—speak on free enterprise, inflation, socialism, Russia, Europe or whatnot—subjects on which, with all due respect, they are not expert. Often they have not even taken the trou-

ble to do their homework. In all probability they turned the speech over to a hack—and they got exactly what a hack produces—a dull speech.

One of the truisms of writing, whether it be speech, article, memorandum or even the humble letter, is that it is almost impossible to conceal your own inadequacies. If you don't have anything to say, the reader or the listener always finds out. If you do have something to say, it is largely a matter of hard work to get it said. What you have to say will shine through your words, no matter how awkward the phrasing.

WRITING IS DISCIPLINED THINKING. Writing is very hard work. It is hard work because writing is disciplined thinking, and the human animal will go to almost any lengths to avoid thinking. For the professional writer, the actual process of composition comes pretty close to pure torture. He may sit high up there in the ivory tower, but if he doesn't succumb to the temptation to jump out the window, remember that he literally sweats it out. That may not be the picture you have of writers and editors, but let me assure you I am not exaggerating.

If the executive will stick to what he knows, or at least restrain himself when he has nothing to say, he has a much better than even chance of turning out good, clear, forceful prose. We're not looking for poetry; not even great oratory. The problem is the speech, the memorandum and the letter.

The executive has a head start on almost everybody by virtue of his vocabulary. Aptitude testing, as you know, has brought out some astonishing correlations between breadth of vocabulary and executive ability. Moreover, when measured against men who could be expected, for professional reasons, to have exceptionally large vocabularies—scholars, critics, authors and so forth—the executive frequently comes out ahead. I have been amused when FORTUNE has been criticized for using too many five-dollar words, too many long words. Sit the good executive down with the professional FORTUNE writer for a vocabulary test and the executive in all probability will win out.

Such a contest would prove nothing except that the executive is an executive, there being no known aptitude tests for writing except writing itself. It's not the words you know but how you use them. All the executive needs is practice— and interest in the art.

A good place to start getting interested is in the English language itself. It is without doubt the most interesting language, living or dead. In the first place, it has more words than any other language. Yet, you can get along with fewer words in English than in any other language.

NATURE OF OUR LANGUAGE. So-called "Basic English" which was invented by the British scholars Ogden and Richards, contains exactly 850 words. Any thought can be expressed in Basic except purely technical terms. A basic in any other western language, it is estimated, would require a minimum of 2000 to 3000 words. If you try to write in Basic it gets a bit awkward and monotonous, but it is a marvelous tool for teaching the language to a foreigner.

Another curious thing is that English is the easiest of languages for an adult to learn—up to a point. After that, it is probably the most difficult to master. Everything can be said in so many different ways. It is so flexible, it has so many words, it is capable of so many shades of meaning, that it demands great precision of thought to express what you want to say with any exactness. In the hands of a master like Winston Churchill, it can be used to shift the course of history.

FALLACIES OF TESTS. I touch on the nature of our language because I am convinced that business is getting a lot of dubious advice about the subject of how to write.

It is widely argued today that writing can be subjected to mechanical tests to score its readability or communicative power. There are a variety of such devices on the market—in my opinion all bad. The fallacy, of course, lies in the divorce of content from style. Content is what counts. Readability ratings tell you nothing about content. The chairman's speech may score a wow in readability— and bore the audience stiff.

Another point about mechanical testing of prose is that it reveals a basic condescention toward the reader. Simplicity is one of the attributes of all art, including writing, but a calculated writing-down is something completely different. And the reader can usually tell instantly when he is being talked down to.

My organization, Time, Inc., has enjoyed reasonable success over the last 30 years. I think one reason for our success is that, as a matter of policy from the very start, we have never written-down to our readers. We may shoot over their heads sometimes but don't for an instant think that is a mistake. It's a far better way to play it if you are trying to communicate with large numbers of people. Remember that while you may have an exceptional vocabulary, recent studies have shown that the old ideas of the limited vocabularies of the average man were way off. Even a high school freshman in America is estimated to know the meaning of anywhere from 10 to 40,000 words.

DANGERS IN BRIEFING. There is another sign, faint perhaps, of what I call the growing illiteracy. That, my friends, is Briefing. In other words, we'll wind up in the end with businessmen who can neither *read* nor write. The only comfort lies in the fact that double-entry bookkeeping so far as I know still demands a working knowledge of arithmetic.

Briefing has reached such a high degree of perfection in Washington, particularly in the military, that some men literally never read anything. They don't have time; they spend their entire time being briefed.

Briefing has its proper place and a useful place, of course. But here again the danger is the divorce of content from technique. Briefing becomes an end in itself. The major smiles fatuously as the general compliments him on a "fine briefing job," which may or may not have anything to do with what the major was trying to convey.

The major got his information from someone else, of course, and in the State Department you will find historical decisions being made by men five or six steps removed from anyone who has direct personal knowledge of the situation.

Briefing also leads to a kind of false tidiness, a specious sense of order and logic that can be extremely dangerous. Briefing always tends to come out right. Everything is accounted for and there is an implicit Q.E.D. at the end. A neatly-wrapped package.

Life is not tidy, orderly or logical. There's always something up in the air. There's a problem in that department because Joe's having family trouble and nobody knows quite what to do about Joe. The western sales division needs reorganizing but you can't get Charlie to move on it. These elemental realities tend to get left out of briefing; you can't plot them on the charts.

You get to be more and more at the mercy of people down the line. In effect the decisions get made before they reach you, by people who have no real responsibility for decisions. But they are the people in command of the basic first-hand data and the way they put it together for the purposes of briefing has a very important influence on the way decisions go.

Well, that's the lesson for today. Get back to your reading and writing and I hope that some of your communications problems will evaporate.

CHAPTER PERFORMANCE AWARD
As of January 1, 1953

CHAPTERS	M & A TOTAL
N. New Jersey	3093
Philadelphia	2117
Asheville	2070
Boston	1712
Milwaukee	1460
Greensboro	1430
Hudson Valley	1305
Pittsburgh	1286
Lancaster	1238
Trenton	1065
Allentown	955
Chicago	797
Los Angeles	737
Charlotte	720
Baltimore	675
Washington	671
Birmingham	645
Wilmington	625
Bridgeport	568
New York	562
San Francisco	530
Montreal	520
Detroit	495
Richmond	447
Atlanta	361
New Brunswick	355
Cincinnati	350
Central Pa.	340
Greenville	260
Indianapolis	260
Hartford	236
Knoxville	230
Portland	216
Worcester	210
Providence	200
Columbus	185
New Haven	172
Wilkes-Barre	165
Manchester	155
Dayton	141
Cleveland	106
Central New York	70
Dallas	70
Binghamton	65
Nashville	60
Kansas City	55
Louisville	40
Western Mass.	30
Reading	20
Baton Rouge	—
New Orleans	—
Stamford	—
St. Louis	—
Twin City	—

Executives: Their Personality and Its Appraisal

By Dr. Burleigh B. Gardner
Executive Director of Social Research, Inc.

WHICH are more important to the success of a company, its executives or its machines? Obviously its executives are. Yet all too often more care is taken in the selection of a machine than in the selection of an executive. Consider, for example, the study usually given to the problem of purchasing a new type of automatic equipment costing $2,500. First the engineers analyze the present processes to determine whether the new equipment will have advantages over the old. They examine the layout to see what rearrangements will be necessary if the new machine is brought in. They study the particular machine to see if it is the best of its type for their needs. They examine data on output, operating costs, maintenance, quality of work, etc. After assembling all this information, after getting evaluations from skilled engineers, production men, etc., management then makes a decision to purchase.

Contrast this careful systematic analysis with the process of hiring a new executive. In a typical situation, the company has just lost a key man, or perhaps it is expanding and needs more executives. The president or vice-president thinks over people he already knows; he asks his executive acquaintances for suggestions; maybe as a last resort he calls on a placement agency or runs an ad. Out of this search several men appear. He interviews them; he looks over their records; he asks a few people about them. Then, if he himself is a very self-confident fellow, he hires a man. If he's not so self-assured he worries. He has his associates interview the man. He looks around some more. Finally, he makes a choice.

It is true that all this may involve considerable time and effort, but the resulting decision is generally based only on a superficial study of the man's past performance and on his ability to sell himself in the interviews. My point is this: Just because you put a lot of time and effort into this kind of selection, it does not follow that you have a systematic and thorough knowledge of the man selected, or that you know how he will fit into your particular organization.

However, many concerns are learning that they don't have to go on fumbling along in this fashion. Some are seeking better selection through raising their own executives. They bring in alert youngsters (usually college graduates), train them more or less, rotate them, and hope that over the years they will develop into the executives of the future. Such home-grown products are fine if they are good material to start with, and if they are given the proper chance and stimulation to develop. If the men are wrong or if the situation is wrong, the company ends up with mediocre executives full of high expectations.

ANALYZING THE PROBLEM. Whether an executive is to be home-grown or brought in from elsewhere, there is a need for clearer understanding of three things:

I. The nature of the man.
II. The nature of the job.
III. Fitting the man and the job together.

By the nature of the man I mean the whole of what he is in terms of knowledge, personality, abilities, and experience —what he knows, how he thinks, how he deals with people, how he deals with himself—the whole complex of the man in all its strengths and weaknesses and particular characteristics.

By the nature of the job I mean not only the work to be done, but the organizational and human setting in which the man must function—the kinds of problems he must solve, the kinds of people he must work with, the kinds of authority and control that will be exercized over him, the kind he will wield over others.

As we put the man and the job together, we face the problem of predicting how he will respond to the situation and how it will respond to him. Every executive leaves his mark upon his job and upon the organization, and every job leaves its mark on the executive. This combination must be predicted. Will the reaction be constructive or destructive? If difficulties can be foreseen, what can be done to prevent them? Must there be other changes in the situation or can the man be alerted to dealing with himself?

NATURE OF THE MAN. Now, there are some basic things we should know about the man, some things which are especially important in telling us what to expect of him in the new situation. Let us consider a few.

I. How does he respond to new and unfamiliar problems? Is he cautious, striving to think things through completely, seeing all the pieces and putting them together carefully? If so, can he come to a decision, or is he so careful that he never really thinks a problem through to his satisfaction?

Or does he size up the situation quickly, deciding on the crucial elements and basing his decision on them? If so, does he pick the right elements and make sound decisions, or does he seek to solve new problems by adapting previous solutions from familiar problems, or can he develop really new approaches to new problems? Does he know it's a new problem?

You often find executives who are willing and able to "fly by the seat of their pants," who are not hesitant about making decisions based on judgement even when the facts are lacking. On the other hand there are those who only feel at ease with decisions based on thorough analysis and tend to be slow and cautious in making decisions. Each may be equally able as an executive but they will function differently. And the first may make mistakes through too impetuous decisions, and the other may make mistakes through delay and caution.

II. How does he respond to interpersonal relations? With what kind of people and in what kind of situations is he at ease or ill at ease? How will people react to him?

There was, for example, the case of the executive who was temperamentally ill at ease with other people and especially so with people of different backgrounds. He himself can from a well-to-do family, had been to an Eastern prep school and college. As an executive he did well except when he had to deal with Union leaders. then he drew into his shell and was labeled as a "cold fish" and a "snooty so-and-so."

III. How does he react to authority and control? Can he accept strong authority? Does he chafe under restraints of the organization? Can he operate independently or does he need the security of firm direction and control?

There are many men who are so restless under control and rebellious toward authority that they never fit comfortably within an organization. Others like the feeling of being part of an organization and can be comfortable under the authority and controls it requires.

IV. How will he handle authority over others? Will he be authoritarian or autocratic in his use of power or will he be sensitive to the feelings of subordinates? Will he set firm goals and standards or will he let subordinates drift without much guidance? Will he be too rigid or too soft in dealing with others, or will he adjust to the individual situation?

The president of a small company, for example, was a combination of the autocrat and the softie. He ran the company in his own way with little regard for the ideas of his subordinates. At the same time, he was constantly wanting to be kind and protective toward his subordinates. The result was that he ran everything and carried a group of mediocre and incompetent executives who were not very good to start with and never had a chance to be any better.

V. How well will he work as a member of a team? Can he stand the give and take of cooperation, or must he have his own way? Is he too competitive?

Too often we find the excessively competitive man whose need to outstrip the others harms the organization and himself. In one case, an able young engineer of this type was so concentrated on his own success or failure that he was constantly accused of trying to climb over others. As a result, no one willingly helped him out and he accused everyone of being uncooperative. His superiors recognized this and he was passed over several times for promotions.

VI. What are his ambitions and goals? Is he a man in a hurry who must rise rapidly or can he stand a moderate rate of climb? Can he adjust comfortably to modest positions? What is he seeking—power, status, achievement? Will he work hard to achieve his goals?

All of us profess to soaring ambitions and to a willingness to drive ourselves to achieve them. This is the stereotype of American ambition. Yet, all of us must somewhere reach our ceilings, or sometime adjust to the harsh realities of what we can really be. Many of us, too, profess more ambition than we are really willing to strive for. We talk great things and dream idle dreams yet settle readily into some comfortable groove.

VII. How flexible and adaptable is he? Can he adjust readily to new situations, new problems, new ways of doing things? Does he cling to the old and reject the new?

To most, success comes through a constant process of change. We move from one job to another. Thus, the man who clings too firmly to the old ways sets limits on his ability to meet and master the new.

Let us say we know these things about a man.

NATURE OF THE JOB. How do we then assess him in terms of a particular job situation? To begin with, we must know something about the job and the company. Assuming he is technically competent, he is trained and experienced in the particular field whether it be accounting, engineering, sales, or what not, then there are these things we should know:

I. What are the regular activities of the job? Does he deal with people, objects, ideas or what? Are the activities repetitious, cover routines that repeat day after day, or are they constantly varying?

II. How much freedom does the job allow? Does it permit making and carrying out decisions on a wide range of activities or is it primarily a matter of conforming to established procedures?

III. How much and what kind of control exists? What kind of mistakes can be made and what kind of new methods or ideas can be put into effect? How long before mistakes are caught and who catches them? How much formal control is exercized over routine daily actions?

IV. What kind of rewards will it provide? Is it recognition through formal review, informal pats on the back? Is there a system for wage increase, advancement, etc?

V. What are the opportunities? How fast, how far and where can a man expect to go? Or is the only future an occasional wage increase?

VI. How much cooperation will be required and with what kinds of people? Is the job one in which he operates independently of other departments and other executives? Does it require close coperation with others? Does it require cooperation with diverse kinds of people in varied jobs?

VII. What kind of person will be his superior, and what does he expect of a man? Is he autocratic—demanding that everything be done in his way? Is he easy-going leaving subordinates to work things out in their own fashion? Does he supervise closely, checking on every detail and expecting to be kept informed on everything? Is he quick with criticism but sparing with praise? Is he very formal or informal in his relations?

VIII. What kind of people are his subordinates? Will he deal with factory workers, professional people, salesmen, or executives? Will he have to handle a group of ambitious and competitive youngsters? Will he be placed over people of longer service who may feel that they deserve his position?

IX. What contacts and relations are required outside the company? Will he work enclosed within the walls of the company or plant? Will he have to deal with outsiders and what will the relationship be?

A CASE STUDY. If we know these things about the man and situation, let us take a few fairly typical cases.

An old company with 2000 employees was looking for a personnel director. It had never had a well organized personnel department or anything more formal than an employment manager, but top management saw the need of a more energetic and systematic approach to build better employee relations. However, the factory was dominated by able old-timers who wanted to run things their own way and looked askance at these new fangled innovations.

The company was considering a man about 30, who, as a member of a consulting firm, had excellent experience in developing and installing up-to-date personnel organizations. In this work, he had always been the outside expert and never a part of the organization.

This man not only had the technical knowledge but he was very intelligent and energetic. He made a good impression and was obviously a man who was headed for a top position.

However, a personality analysis revealed that although he was undoubtedly top executive caliber in many ways it would be a mistake to place him in that position. The limiting factors were as follows: a. He was a young man in a hurry to gain recognition and responsibility; b. He tended to impose his ideas on the organization and would subordinate everyone else in his desire to get things done his way; c. When he met opposition he would ride rough shod over anyone in his way; d. He couldn't work well as member of a team if he had to give way to the others.

In this job, he would have faced the problem of gaining acceptance of himself and his ideas among the older men in production and engineering. His impatience with them would have antagonized them to where they would have resisted everything. Top management wanted the new personnel director to win over the established group rather than start a struggle for power. Thus, this man would have become a center of conflict rather than a center of cooperation. Needless to say, the company selected a less brilliant but more cooperative man for the job.

ANOTHER TYPE OF CASE. Another type of situation was that of a young engineer who had done an excellent job as head of a small technical department staffed by mature, highly skilled craftsmen. He was adanced to head a large production department staffed largely with semi-skilled men and women. After a few months, the department was in a mess in terms of both production and morale, and he seemed to have lost command of the situation.

Examination of his personality showed several things:

a. He was a good engineer and loved solving technical problems of production, engineering, design, etc.

b. He was not at ease with people except when meeting them on the basis of professional interests. As long as dealing with subordinates meant only solving technical problems of the work, he was fine. When it came to problems of how to motivate people, how to maintain discipline, in short how to supervise, he was lost.

c. He was inept in dealing with women and tended to withdraw from contacts with them in the shops. In one instance, a group of women quit work and were having a big argument with one of the foreladies. At the same time, this department was a short distance away with a mechanic setting up a new machine and obviously ignoring the whole affair.

d. He was not highly ambitious and would not work hard to succeed.

Here was a man who should have remained in strictly technical work such as engineering design or development. He had been pushed into work to which he was not suited and was failing. Although he knew he was failing, he did not have the drive necessary to face the problems, he would not force himself to improve. After a few months, he took a long vacation and then bought a farm and settled down to a less striving existence.

CONCLUSION. Finally, we face the problem of how to know these things about a

man, and especially how to know them without expensive and time-consuming trial and error methods. Difficult as it may seem, there are techniques which in skilled hands can probe deeply into the hidden personality of the man and tell what lies within.

First of these is the clinical-type interview. Drawing upon the understanding and skill of the clinical psychologist or psychiatrist, the trained interviewer can construct a valuable picture of the personality of a man. This technique is most effective in the hands of one who is highly skilled both in the analysis of the dynamics of personality and in seeing how a given personality fits into a particular work situation. This technique has been widely applied by many psychologists in industry and can be expected to have constantly increasing use.

The other basic technique is that of psychological testing. In this field, I feel that the projective tests, Rorschach, Thematic Apperception, etc., provide the most effective approach. In these, the magic lies not as much in the test as in the skill of interpretation. The test is no more than the X-ray, dim shadows of hidden things, which has little meaning except to the expert. But in expert hands, the shadows reveal the structure of the man in all his strengths and weaknesses.

The Executive Art

By Dwayne Orton

Director of Education, International Business Machines Corp.

OUR previous speaker provides me with a point from which to consider my topic, "The Executive Art." When all the techniques for the development of executives have been discussed, we realize that we are dealing with an art.

Within the person himself, and in the process of developing that person, we are thinking in terms which transcend techniques.

I am reminded of what Edward Johnson said at the dedication of our new factory in Toronto: "A man who works with his hands is a laborer; one who works with his head and hands is a craftsman; one who works with his hands, head and heart is an artist!"

My plea is for artists in management. In the last analysis, the executive is founded primarily on character and integrity. The executive must have a sixth sense—sensitivity as an artist—to the entire scope of the enterprise; sensitivity and an insight into the balance of the various elements in the enterprise—the economic and non-economic elements and a sensitivity to his responsibility for it. In a real sense, he symbolizes the things which make the institution he heads or in which he has a prominent executive part.

I do not say this to sell short executive development techniques. These techniques are before us constantly. They receive constant emphasis in the SAM magazine, ADVANCED MANAGEMENT. We find them in this Conference; we discuss them constantly in our chapter meetings. This Conference is replete with reminders of outstanding techniques of executive development.

I like to think of three processes in the development of executives: rotation, incubation, and education. Rotation and incubation possibilities have already been explored here today. The education of the executive is being carried on well by many of our institutions. Now I want to deal with one small area—in my humble judgment a neglected area—in the development of the executive. That is the area of the objectives, principles, and ideals which are in the realm of art. Training techniques without the art, the spiritual qualities of the executive's make up, are like a blind alley.

AN ORGANIC VIEWPOINT. What, then, are some of the components of the art of the executive? In the first place, the art of the executive involves a point of view which sees the enterprise as a whole. It is an organic point of view. Previous speakers in their expert delineation of the make-up of the executive job and the man have emphasized that the specialist must rise above his specialty. This is emphasized in many different ways.

I think, for example, of translating into this context the history of an art as Sheldon Cheney has put it: The art of people goes through three stages: imitation, pickers and choosers of other peoples' art, and improvisation, which, in a catch-as-catch-can fashion, one fits together by a fit of attachment the things which make up the whole. And the third stage, the ultimate stage, the mature stage, is the organic stage in which to adapt Sullivan: the functions of the institution or the object or the project determines its form.

In the development of those intangible and basic qualities of the executive, one has to think in terms of one who must see the institution as an organic whole. For the one who sees it this way sees its inter-dependency of parts. He sees it, not as an improvisation of division on division on division, built out of department upon department upon department, but he sees the institution in terms of its life force.

What is it that gives the electrical circuits its life? Is it the wire which makes up the structure of the circuit, the transistors or tubes or relays? No. It is the life force of the current which goes through the thing which really makes that circuit. As with the circuit, so with the institution. The life force of the institution is not the chart of the organization, nor the relationship of its parts. It is rather that unseen current within the relationship of its people.

It is true that much management practice necessarily militates against the development of the executive. How can we bridge the gap between the managers on the lower levels, who must be concerned within a limited framework of operations, and meet the demand for the reaching out which Mr. Gardner so well specified in his delineation of the character of the executive? Accounting concepts? Division of labor concepts? Labor-management conflicts? These concepts and conflicts with which one must deal on his proper level are not essential preparation for the one who must see them organically and as a whole.

The executive artist rises above these, not because they are unimportant but because he must bridge a gap. The technician sees the blocks. The executive sees the processes. The technician sees the lines on the organization chart. The executive-artist sees the current of life which makes up the institution—sees it, for example, in engineering. He sees the engineering not as a series of projects nor even the fitting of those projects into the making of the completed object; rather, he sees engineering as that force within the life stream which is projecting the life of the business through its product five, ten, 20 years from now.

With respect to sales, the technician sees the sales situation just in terms of the balance of the sales effort to the income, the revenue, and the distribution of the products. The executive must see beyond that. He must see those salesmen as the ambassadors of his business to the public, and as the eyes, the ears, the listening posts of that public back to his business. He sees those salesmen as ambassadors of his business in the total social scene for which he is accepting a responsibility.

The executive artist leads a great orchestra. He is not playing any particular score. He is holding all those parts in balance in the production of his single piece of work. He has the organic view of the enterprise.

What are the implications of this for training? Here is required a quality of mind and heart. I would not attempt to discourse on character training, on the development of integrity. Peter Drucker met the point by suggesting that the first thing he would advise is, stop destroying it. It is something that is caught as well as taught.

BALANCE. In the second place, the art of the executive involves a balance between the economic and the non-economic factors in the enterprise. Here we meet a quality of executive art so badly needed. I think it is an interesting coincidence that only yesterday I opened the October, 1952 issue of ADVANCED MANAGEMENT, and found there was a repetition of several significant papers. There was one by Metcalf. In it he quotes Elton Mayo, who wrote over 20 years ago: "The urgent problem of the present is that our administrative elite has become addict of a few specialist studies and has unduly discounted the human and social aspects of industrial organizations."

I quote from the same paper the words of Phillip Cabot: "So we must try to broaden the perspective of the men who are now in business. We must try to make them understand that all business problems are social problems; that specialists in business can go too far; that no man is qualified for business leadership who does not understand the true relation of business to society; and that no price is too high and no personal sacrifice too great if it is necessary to obtain that point of view."

Our history as a people and as a business enterprise system has not been entirely conducive to this broad social point of view. Is this adequate balance of the economic and non-economic scene? Has all that has been developed among us caused us to concentrate primarily upon the economic and material factors in it? I remember that Edward Bernays found in the Massachusetts Court in 1868 a rather significant reference along these lines. The Court was investigating manufacturing conditions in that state, and they asked this question: "Do you manufacturers do anything for the physical, intellectual, and moral welfare of the workers?" The official answer was, "We never do. I regard my working people just as I regard my machinery. So long as they can do my work for what I choose to pay them, I keep them, getting out of them all that I can. When my machines get old and useless I reject them and get new, and these people are a part of my machinery." 1868! We have come a long way since then. I know there are some who still work on the basis of the commodity theory of labor but they are on the way out.

The art of the executive must comprise, above all things, the non-economic as well as the economic. Chester Barnard emphasized this. "Though I early found out how to behave effectively in organizations, not until I had relegated economic interests to a secondary—though indispensable—place did I begin to understand organizations or human behavior in them. I mean specifically, with reference to business organizations, that non-economic motives, interests and processes, as well as the economic, are fundamental in behavior from the boards of directors to the last man."

I believe that one of the greatest developments in American management is this sense of the value of the non-economic. This capitalist revolution, as it has been called, is beginning to create in us a sense of the simple fact that the human values within the organization are equal to the material and the financial values which also are in it.

The executive art demands that we build into selection, training, and development of the executive the activities which will give him the opportunity to see the whole institution in terms of the life blood that moves through it, and to see the business in terms of balancing the economic and the non-economic aspects of that life blood.

Is this still a day in which we can say, "Well, business is business"? No, it is not. The person who confines himself, in his view of the business enterprise, to its purely economic factors cannot meet the challenge of this day. He will be riddled with labor troubles and all sorts of dislocations from which he cannot recover.

Here again is an area in which our universities can contribute much. I am reminded that my own university was written up by FORTUNE Magazine in the following words: "The university offers staggering testimony to man's appetite for the pure and practical conquest of nature, and almost no testimony to man's control of himself."

Yet the university is a great resource that we are learning to use and one from which we are gaining a great deal in these days. I think one of the most interesting executive training programs I participated in was when the Sante Fe Railroad sent to the University of Southern California a group of railroad executives for six weeks. They and their families were housed in dormitories on the campus. The men attended classes from nine in the morning until five in the afternoon. One hour was given to the executive technician, and the balance of the time was devoted to the social and economic aspects necessary to establish a proper understanding of business. In the days that I observed this program, transportation was not mentioned once. I don't say that it should not have been mentioned, but I am laying emphasis on the fact that together this great railroad was bringing members of management, varying from a vice president in charge of operations to a trainmaster, to build for themselves, and with the assistance of the university, a picture of the social milieu in which that great railroad operates, so that they might see the whole and see the relationships of the economic and non-economic factors to the whole.

TRUSTEESHIP. In the third place, the executive art involves a sense of trusteeship. This again is something we have heard before. Certainly we see the trusteeship of business as it has been developing and taking a larger part in community affairs. We are discovering that the production of goods and services are not carried on outside of society, that no man lives unto himself alone, nor does any business. We are beginning to discover that the social scene in which business operates controls business as much as the policies and intentions of those who would project the business into that social scene; that the corporation is conditioned by government, conditioned by unions, conditioned by the educational status of the community in which it operates, conditioned by the public health of the community, and by a host of conditions within the communities where it operates; and is conditioned by the intents and purposes and commitments of that government in which it operates. We are beginning to see that the corporation is a community, that people live in it; that they do not, when they ring the clock in the morning, give up their citizenship and move into another status. They are citizens at work.

I am not talking so much about fringe benefits or the charitable alms of the corporation which it gives to the community. I am talking here about the readiness of the corporation, through its executive leadership, really to be a part of the community. Trusteeship involves recognition of this influence!

For example, can you think of your corporation as a moral influence within the community where it works? The integrity in relationships, business to business and person to person, worked out within the enterprise itself can be tremendous educational influence in the community. As a corporation reads the relationships carried on through its people, so the community is molded, bent, or twisted.

This is not some ethereal ideal. This is a very practical application of the trusteeship of the corporation. If we are to sustain our way of life against the inroads of those who would turn it all over to the state, we in private enterprise must learn this trusteeship, not as a beautiful ideal for the dispensing of alms, important as that might be, but as the working of our democratic processes.

There is much more that might be said about this. There is a quotation by Clarence Francis which says: "I will speak out in behalf of my business and the system it represents. I believe that business leadership is nothing less than a public trust, that it must offer a message of courage and hope to all people, and that it can help an economically strong America to lead other nations to lasting prosperity, freedom, and peace. I will work not only for the advancement of myself, my family and my country, but for liberty and democracy for America and the world now and in the years to come."

The executive art is built on an organic view of the enterprise, with a full recognition of all the factors, human, and economic within the enterprise, accepting a trusteeship of the influence of that enterprise. Only as we are able to develop that art within the executive himself are we going to realize its values. For he, above all people, must be committed to

the idea that man is the essential factor in the enterprise, that the focus of the operation, the procedures of the enterprise, the building of the product, the relationships of its products, its finance are, as Chester Barnard said, secondary.

Mr. Thomas J. Watson spelled it out on one occasion in 1914 when he addressed the entire work force of our company. He wrote the titles of the people on an easel pad: general manager, sales manager, salesman, office manager, officeman, factory manager, factory man, service manager, and serviceman. As they looked at it, he ran his crayon through all but three letters which ran through all titles—man—and reminded those men that they might have all the material assets of a business, but if they haven't got the men, the right kind of men, all those things are worthless.

Of such as this is the Executive art.

MONTREAL CHAPTER TO HOLD CONFERENCE

CANADA'S Fourth Annual Industrial Engineering Conference is being sponsored by the Montreal Chapter of the Society for Advancement of Management, on Friday, March 20th, in the Sheraton-Mount Royal Hotel, Montreal.

This year's conference will concentrate on the need for increased productivity in Canada, and the theme is "Second Industrial Revolution—Productivity." Representatives from government, labor and management have been invited to speak.

The morning session will present two talks, one on "Productivity in a Free Enterprise System" and the other on "Labor Unions' Contribution to Productivity." Mr. W. Mahoney, Assistant Director, United Steel Workers of America, will speak on the second subject.

SAM RATING FILMS. At the end of the morning session, the SAM Rating Films, presenting for the first time a uniform concept of a fair day's work, will be shown. The films show the study of 120 separate performances, based on some 150,000 ratings by more than 1,800 engineers in over 200 industrial companies throughout the United States.

After luncheon, two additional talks will be presented. The first is entitled, "Productivity Through Morale" and the second and last talk of the day "The Industrial Engineers' Contribution to Productivity."

Further information on this Industrial Engineering event may be obtained from Mr. D. R. MacLennan, SAM Conference Coordinator, Northern Electric Company Limited, 1261 Shearer Street, Montreal.

Teaching The Total Management Function Through Job Rotation and Other Ways

By Herluf V. Olsen

Professor of Business Economics, Amos Tuck School of Business Administration, Dartmouth College; Director, Commission on University Education in Hospital Administration

ANY discussion of the problem "Teaching the total management function through job rotation and other ways" must give due consideration to the pre-service education of the personnel involved as well as to the in-service aspects, even though the latter may be of first importance at the moment. Looking ahead to the next 10 to 20 years and longer, should we not examine carefully what we are doing now in our college and university programs to help young people prepare themselves for managerial or executive responsibilities some years later? Whether such programs of learning be on the undergraduate or graduate level, in schools of business, engineering or the liberal arts, is it not high time that representatives of business, industry, government and such institutions of higher education got together to discuss systematically and intensively "the total educational function of pre-service and in-service programs of education, training, growth, and development of potential management or executive personnel?"

Is it not time that we have a closer meeting of minds of leaders in these groups so that better planned and coordinated programs of learning can be developed to meet the great need for more and better equipped top management personnel?

Even though there is no standard or uniform executive position and no set formula of executive qualities and their quantities, it is possible and necessary to determine the functions, duties, and activities of management people in different fields of business and at different levels. From this, it is possible and necessary to determine certain personal traits, abilities, and skills that a person should have or be capable of developing if he is to do a good

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job at these various levels and especially in top management positions. As "we" develop a better and clearer picture of the duties and activities involved in specific management positions, and agree on at least a minimum of basic or core traits, abilities, and skills needed to perform effectively in such positions, "we" can plan our educational and development programs for top management personnel with much greater confidence and success. By "we" I mean educators in our colleges and universities, executives and staff experts in business, industry, government, and private consultants.

NEED FOR TEAMWORK. All of "us" have a vital interest in helping potential executive personnel learn how to grow and develop effectively into able managers and administrators. "We" are keenly aware of the importance of having the various and numerous small and large private enterprise organizations manned and directed by younger and older persons who have had opportunities to learn, develop and apply philosophies, principles and methods of management so sorely needed in dealing with the problems that face industry today on company, industry, national, and international levels. If "we" are to meet these needs at all well, it it not high time that "we" (educators in colleges and universities, executives and staff experts in industry and professional consultants) or our representatives, put our heads together a little more often to think, talk-out and plan more carefully and comprehensively how all of us can contribute more effectively in helping on-coming generations, as well as those now in the harness, to learn better and sooner how to perform the total management function?

Directors, instructors, counsellors and executives participating in pre-service, in-service, on-the-job and off-the-job programs of education, growth, and development of potential executive personnel, all need better and clearer understanding of the duties and activities of top management positions and the personnel traits, abilities, and skills needed by persons in such positions to perform effectively. Without such information and understanding in general and in specific situations in a variety of business organizations, obtained from the people and situations "on the firing line," it is difficult for the professional and other people in the fields of education, training and personnel development to plan, organize, and operate successful programs in executive development, be they in undergraduate or graduate colleges and universities or conducted directly under company auspices, whether on the job or off. The philosophies, principles, and methods involved could be studied, clarified and implemented more effectively by all of "us." We in the colleges and universities could plan our curricula, courses and methods of instruction better. If all of us work this out more on a joint basis of understanding, we will have better and more broadly accepted objectives; we will understand what each is trying to do and how; and we can each plan our part better when we see it as an integral part of a planned program of growth and development pre-service, in-service, on the job and off.

The fine work of this Society, the American Management Association, the Committee for Economic Development, Inc., associations of professional schools, various associations and societies of professional people, certain individual business organizations and educational institutions, and other groups is indeed to be commended. However, it is clear that we need a closer meeting of minds and more carefully thought out programs of learning than can be achieved by the important work being done by these groups independently. To help more young people acquire and develop *sooner* and more successfully the traits, abilities, and skills needed to assume the responsibilities of management in these times, those of "us" involved in pre-service and in-service education for the total management function must set up a closer and better working relationship. After a broad and general pattern has been developed for such a program of education, we will have a far better basis for selecting the combination of materials, methods, and techniques to be used in meeting the particular needs of management in the different types of activities.

EDUCATION IN HOSPITAL ADMINISTRATION. Such an approach to the development of programs of education in administrative work is being attempted in the field of hospital administration. As director of a small study group, I have the pleasure of working with a Commission of nine men in evaluating 13 graduate university programs in hospital administration in various parts of the country. This study is sponsored by the Association of University Programs in Hospital Administration and financed by the Kellogg Foundation. As presently organized, these programs include 21 months of work, leading to a master's degree, nine months at the university and 12 as administrative residents or interns (apprentices) under able and carefully selected administrators (preceptors) in approved hospitals. Recommendations will be made by the Commission in regard to the following:

(1) Prerequisites for admission to these programs in terms of undergraduate work, age and experience.

(2) Philosophy, principles, and emphasis in regard to curriculum content.

(3) Teaching materials, methods, and techniques.

(4) Education, experience and type of faculty personnel.

(5) Library, laboratory, research and field facilities.

(6) Relationship of the preceptors to the university faculties and courses.

(7) The residency (apprenticeship) year in the hospital—training, development methods, and techniques.

(8) In-service growth and development programs for administrative assistants and other administrative personnel.

Before we can make satisfactory recommendations along such lines, we are making careful studies of the functions, duties and activities of hospital administrators and their assistants, and of the traits, abilities (qualifications), and skills needed to be successful administrators in various types and sizes of hospitals. This is being done through questionnaires, group conferences and personal interviews with the directors, faculty members and preceptors of programs, with hundreds of hospital administrators, with trustees of hospitals, and with authorities in the field of medicine, public health and education. Without the collaboration of these groups, it would be difficult to get an adequate idea of the basic trends in the medical care, health and hospital fields, and therefore of the type and calibre of personnel needed for top management positions in these areas. Without this background of information, education and development programs for hospital administration would fall far short of meeting the present, and, especially, future needs.

By next fall, we hope to have completed three sets of reports, namely, (1) the philosophy, principles, and methods of pre-service and in-service education and development programs for hospital administration; (2) confidential evaluations of and recommendations for each of the 13 graduate university programs; (3) recommendations to the Kellogg Foundation in regard to its policies and problems in aiding education in the field of hospital administration.

Here we have people in the universities, the hospitals, the professions, and the hospital organizations (American Hospital Association, the American College of Hospital Administrators) cooperating in tackling the problem of how to get more persons better qualified to take over sooner the managerial or administrative positions in our hospitals, the sixth largest business or industry in the country.

Perhaps we in the field of management in business should make more serious attempts at concerted action along such lines in at least one or two segments of the business or industry fabric.

THE PROCESS OF LEARNING. Please note that I have spoken more of a process of learning, growth and development than one of teaching. Although the didactic method has its uses and should not be minimized, I believe that in the advanced stages of learning in pre-service education and increasingly so in in-service programs, greater emphasis must be placed on learning by seeing it done, doing it oneself, or by solving problems and handling situations that simulate reality as nearly as possible. Striking improvements can be made in both stages of learning the total management function if "we," the groups referred to earlier, get our heads together at least occasionally. We

would then know much better when and how to make the best use of the many different learning methods and techniques that you and I can list at some length.

Since "we" are all involved in helping potential management personnel to learn, grow and develop, whether before or after employment, we must all have more clearly prescribed and defined ideas of the work to be done by these people and the attributes needed to do it well and sooner, than we appear to have in most cases. In planning development programs for those on the job now at varying levels, and for those in pre-service education, it is necessary for us to have this information, and understanding. Call it by such names as organization charts, replacement charts, management inventory, job specifications and performance appraisals, man and position specifications, not just general statements of functions but in terms of results expected, or, better still, management position guides. Unless these needs in regard to the work to be done in the different positions and levels of management and the qualifications necessary for persons to perform well in those positions are carefully determined, effective selections, evaluation, development and promotion cannot be done.

BREAKING DOWN THE MANAGEMENT FUNCTION. The total management function will, of course, vary in execution in certain respects from company to company, industry to industry and from one point of time to another as conditions change within the company, the industry and especially in our social and business economy, nationally and world-wide. Its counterpart, "the total education and development function" must be guided by these conditions, as the integral parts of a comprehensive program are worked out in some detail. The major elements of such a program are not new, but they need a different approach, a sequential emphasis, a more logical relationship or build-up from pre-service through in-service programs.

The main elements of the total education and development program include the following:

I. Organization Planning — to determine the needs of the company now and the next 10 to 15 years in light of the present and probable future conditions in the company, the industry, and the nation.

II. Management Inventory Analysis — to determine job and man specifications —to make performance appraisals of existing management personnel—to provide summary of needs for replacement, improvement, and expansion.

III. Development programs for each individual executive—in line with the needs of the company and of the individual.

IV. Selection and development of new personnel—to fill in gaps or voids, at various levels—to provide a flow of new young blood for replacement and expansion.

V. Orientation and Development programs for new personnel—based on pre-service education and experience, on needs of the company (see I and II), and on needs of individuals.

Granted that each of these five major parts calls for a great deal of information, thought, analysis, imagination, ingenuity, and planning, more important, they are necessary integral parts of the total function of education and development for present and new potential top management personnel. No one specific training, educational, or developmental method or technique should be employed until it is clearly understood what need it meets in the overall plan.

INTEGRATION. If there were a closer and better rapport and understanding amongst leaders in pre- and in-service programs so that each would be familiar with the others' objectives, problems and methods, each group could play its part far more effectively in helping to meet the ultimate needs of business as determined by the first two elements of the total program. Once such a closer understanding, relationship, and coordinated planning is established, a sounder working basis will exist for selecting and using the various teaching, learning and developmental methods for executive development. The problems of remedial, corrective, and supplementary training will be less numerous, less extreme, less serious, but, of course, still present. They will be better understood and will be solved more quickly. They will be superseded by development programs and methods carefully built upon and tied up with pre-service and early in-service education and work. More and better qualified management personnel will then be available sooner. This will permit the older executives to move on sooner to positions of counsellors, planners, policy makers, and business statesmen which call for experience, wisdom, reflection, thoughtful analysis and interprtation of social and economic trends, and the ability to look into the future. In time, the number and quality of such men will be greatly enhanced, men who should have the time and motivation to participate *sooner* and to a greater extent in local, national and world-wide public affairs, than is the case today.

Assuming that we have a better developed and integrated total program, so that those occupied with in-service programs, on or off the job, need to devote less time and energy to *remedial* work, perhaps all parties concerned, top executives down to supervisors, staff people, private consultants, university people and others, may become more aware of the necessity for all management personnel, especially young, new potentials before employment as well as after, to possess or acquire an interest in, willingness and ability *to become teachers, counsellors, coaches or tutors,* if they are to become successful executives and have their companies prosper. Helping one or a few assistants to grow and develop in a planned manner, certainly makes an executive or supervisor a better man in his job and can contribute to an unusual extent to the growth, success, and perpetuation of the organization if properly done in light of conditions referred to earlier. To help younger executives learn how to guide, teach, coach, etc., management should introduce them at an early stage to the basic philisophy and principles behind it. This type of learning can readily be done in more-or-less conference or workshop style during the first year or two of orientation training. Furthermore, it provides an excellent opportunity to capitalize more directly and immediately on the broader aspects of the college education of the new men. Then too, by getting executives from the higher levels to participate at times in this phase of the program, it helps these executives to keep alerted, interested, and growing in their responsibilities as tutors and coaches.

JOB ROTATION. Job rotation in such a "total program" is certainly one of the most important learning methods, to my mind the *most* important *single* one, if the development program for an individual company is well-planned and carefully supervised by a top-level executive. A well-rounded top management man needs practice in making decisions and experience in carrying responsibility in various business phases. Furthermore, rotating executives often bring about substantial improvements in the departments through which they move by introducing new ideas. Since the objective is to develop know-how, understanding, and judgment in approaching and dealing with people and situations of many kinds, in thinking their way through to conclusions or plans of action and in carrying them into successful operation, only actual experience in handling job situations can help the future executive to develop such traits and abilities adequately.

Naturally, the details of an integrated program with proper sequences, general paths of progression, and the particular timing and combination of various methods and techniques of learning and development will vary with the size and type of company. Likewise, the setting-up of staff personnel and the extent to which they, outside consultants, and special university programs will be needed in the "total program" will again depend on the specific needs and conditions within each company. The help of all such individuals and groups is badly needed now and will continue to make very important contributions in the best planned and operated program.

Rotational assignments should, in general, begin soon after the year or so of orientation (this first period needs much more attention and sets the tone and understanding of the "total program"), the point of departure in a large organization being the department in which the candidate has at the moment the strongest interest and for which he is definitely qualified. The length of time he should stay in each position will depend on his own capacity for growth, and the degree

of flexibility in the rotational process. Since it may be difficult in later stages at higher levels to move him into highly specialized, technical and staff departments, he should be given experience in positions with less responsibility at an earlier stage and/or moved into such departments as an "assistant to" major executives. However, in some of them, as, for instance, a staff department, the line executive might find one of the best places to get the overall picture, to deal with problems new and old, bearing on many or all phases of the company, and acquire concentrated experience in the analysis and solution of top management problems.

The question of inter-functional rotation should be less difficult to handle, if the proper path or sequence of rotation is laid out early enough, at least in a general way. The problems involved here are more easily handled than in the case of the highly specialized and technical departments. Here is where effective use can be made, at the right time and stage of the candidate's path of progression or executive development, of other methods such as understudies (coaching on the job), role-playing, problem-solving conferences, and special classroom or group instruction. Certain specific policies, systems, procedures and techniques can be taught adequately by the classroom method whereas the interplay of intangibles, human relations, and other variable factors in specific situations can best be learned by the other methods.

ADDITIONAL TECHNIQUES FOR DEVELOPMENT. As the candidate progresses through job rotation and other ways toward top management responsibilities, he will at varying stages need exposure to other learning and growth methods. Even assuming that the "total program" has achieved success in developing executives who carry out their teaching, tutoring or coaching responsibilities effectively, and that a planned progression of job rotation is working well, the job of *coordinating, knitting together,* and *integrating* the *experiences and learning* of the candidate into habits and patterns of thought and action in terms of the "total management function" needs further assistance.

It is here that consultative management processes such as management councils, committees, and multiple management have been used successfully by different companies. Role-playing has already been mentioned; it is an important device in training management in areas where there is a person-to-person relationship. Problem-solving and case analysis conferences, when geared to real company problems involving active participation of individual members, have proved very effective. Advanced management schools of eight to twelve weeks duration are now being conducted in nine or more universities, intended for executives in the upper echelons, to stimulate, inspire, raise sights, bring up-to-date, broaden and develop the thinking and abilities of these people in terms of the "total management function." To develop competent management, there must be a variety of experiences, methods, and theories and an interchange of ideas, which may be obtained only from outside sources, no matter how good the "on the job" development program may be.

This rather highly condensed discussio of the "total educational function of pre service and in-service programs of education, training, growth, and development of management personnel" presents, my general approach and analysis of the assigned topic "Teaching the total management function through job rotation and other ways." The various parts of this "total program" approach can be developed in detail in such a manner that there will be a logical sequential relationship between them in terms of basic philosophy, principles, and methods. I have been impressed so often with the failure of company executive development programs to give adequate consideration to the background and basic criteria necessary in deciding on the use of specific methods and techniques. Be it a large or small company, it cannot, except by accident, develop a successful program for developing executives without careful regard for all the inherent and integral elements involved in *any* such situation. Great harm can be done to the individuals and the company for a long period of time, if careful analysis and planning in relation to "the total situation" does not precede the selection and use of any particular development method or device, be it job rotation or other ways.

I hope that the activities of this Society and that of other groups interested in helping business and industry to do a much better job of "teaching the total management function" will stimulate more companies to tackle this important problem of society with broad understanding, keen insight, and logical analysis.

How To Chair A Conference

By Thomas H. Nelson

Partner, Rogers, Slade & Hill

THE typical executive spends more time in conferences than in any other type of activity. When the President of a well-known company was asked how much time his company executives spend in conferences, he studied for a moment and replied, "'Plush Alley' (that's the popular term for the executive officers) spends about 65% of their time in conferences." It is probably equally safe to say that there is no other phase of executive responsibilities for which the typical executive has had less systematic preparation or training.

Most executives drift into their habits of conference leadership like a boat without oars or a rudder drifts through the churning rapids of a turbulent stream. No wonder so many conferences are wrecked.

Conferences range all the way from the most typical way of wasting high salaried time to the most effective way of combining experience and judgment in the solving of management problems. What they are depends largely on the skill of the leader in planning and guiding group thinking, group feeling, and group action.

Good conferences don't just happen. They are the result of proper planning, appropriate participation and effective leadership.

Proper planning involves the assembly of appropriate persons, the preparation of an agenda and the availability of essential data and reference materials. It includes, too, the kind of conference room and equipment that facilitates rather than handicaps group thinking.

Too often the conference room facilities are superior to the selection of personnel, the outlining of an agenda, and the preparation of needed working materials. The room is usually the least important factor, for a conference group cannot pool ignorance and come out with wisdom despite the expertness of the leader.

Effective leadership involves many technics, ranging from arousing concern about the situation, establishing freedom to talk, keeping the group on the track, making judgments objectively, rather than selfishly and emotionally, and the building of acceptable decisions.

Today we will spotlight what the leader has to do to effectively plan and lead a conference to get group thinking, feeling and action.

TYPES OF CONFERENCES. There are four major types of conferences: *informative conferences, instructional conferences, attitude-airing conferences,* and *problem-solving conferences.*

A staff meeting, where men sit around the table and exchange ideas about what they have been doing or are going to do, is an *informative* conference. It is an exchange of experience. The supervisor on the job may call his workers around his desk, and pass out assignments. An executive may ask his department heads to report to the group what's happening and what's planned. No problems are solved by the group, usually no decisions are made at an informative conference ex-

kept by the person who may be holding the conference.

Then there are other conferences in which the main objective is to develop understanding. The leader goes in with a well thought-out idea, and *seeks to develop that idea through discussion* to the point where members of the group understand and accept it. Many *training sessions are of this type.*

There are conferences, sometimes not planned as such, which turn out to be *attitude-airing* conferences. The leader finds that he has to spend some time in airing attitudes before he can get the group down to constructive thinking. One can be happy when the need for that type of conference is very limited.

The most difficult conference to hold is the *problem-solving* conference. It is difficult because in such a conference the leader is seeking to get group thinking, group feeling, group decision and action. In such a conference, *the leader does not have to know the right answer* provided he knows *how* to get a group to *think, and decide.* It requires, however, faith in people to hold a problem-solving conference without knowing beforehand just what answer is wanted.

THE PROBLEM SOLVING CONFERENCE. First, let's narrow our concern to that type of conference which the operating executive uses most often, the *problem-solving* conference.

Some years past I attempted to list all the techniques involved in problem-solving conferences. When I got to 101, I quit, probably because I knew I could remember the number 101, but I don't think I exhausted the possibilities.

How many techniques are there in playing a game a golf, or in casting a dry fly one foot to the left of the lily pad in a cross wind? However, those activities are simple compared to managing one's own mind. When you put 10 to 15 minds around a table and seek to guide their thinking through a complicated situation, to a practical and acceptable conclusion, you are working with *the most complex machinery that any man has ever had the opportunity to handle.* It's a "machine" that doesn't stay put. It isn't the same "machine" now that it was two hours ago. Anyone who can lead a problem-solving conference can lead any other kind, because in that kind of a conference you have to get some sort of group decision.

In moving from indecision to effective action through the problem-solving conference, the group takes five major steps. The first step is "What is the Situation?"; the second, "What is the Problem?" (that has to be solved to change the situation); the third, "What are Some Things that we can do about this problem?" (possible solutions); the fourth, "What is the *Best Solution* now, under these conditions, at this time and place, with such resources as we have available" (in this fourth step comes assignment—who is to do what, when and how); the fifth step, at the end of the conference, is *to give* some kind of unity to what has been done, so that individuals feel that they have done a good job and go out and do what they decided to do.

Too often the busy executive hesitates to proceed systematically through these five different steps. What he tends to do under the pressure of events is to say, "Well, let's see what the situation is." He gets a few facts and then he says, "Now what's the best thing we can do?" He jumps to step four before he has done enough surveying of the Situation, the defining of problems and the canvassing of possibilities.

There are certain definite requirements for each step, and when these are met the conference proceeds systematically and effectively to solutions.

WHAT IS THE SITUATION. In Step One, the leader first sees that the group understands the topic. I've seen conferences run for an hour before we were certain just what it was we were discussing! At the very start of a conference, the group should know *"why* we are here," (the topic, and the purposes of the conference). Then follows a brief review of the situation by the leader so that the members of the group understand what is being discussed what is "in bounds," and what is "out of bounds."

In Step One, the leader seeks to arouse a sense of dissatisfaction with the situation as it exists, because until the human mind is dissatisfied where it now is, it makes no effort to think. Only when we have a sense of dissatisfaction, only when "the grass looks greener on the other side of the fence," do we really start thinking about how to get over the fence. Finally, we must be certain that there is *freedom to talk.*

WHAT IS THE PROBLEM. In Step Two, the group defines the specific problem (or problems) to be solved. The unfortunate thing is that very few conferences can concentrate on one problem. The leader helps the group to analyze why these unsatisfactory conditions exist, and what it is that must be solved in order to get rid of what is unsatisfactory in the situation. This is usually not the same as the topic. One of the most common mistakes that we as leaders can make is to assume that, when we write down a topic, we have identified the problem.

Let me give you an example. The Sales Manager of a company with a national distribution saw that gross sales for the past two months were 5% below budgeted goals. He was concerned, and he called together his sales staff to discuss, "How to Increase Sales." An analysis of the situation in Step One revealed the following: sales in all the districts, except the New England area, were equal to or above quotas; sales in New England, particularly in Massachusetts and Connecticut were down 25%. Therefore, the situation was unsatisfactory in only the New England area. More facts revealed that a competitor in New England has introduced and popularized a product at a lower price and was taking over a disturbing number of old customers.

The problem then became, "How to meet the competition of this new product being sold in New England at a lower price." The problem was not merely, "How to increase sales," but "How to meet competition in New England on a specific product." A survey of the situation in Step One made it possible to properly define the specific problem in Step Two which had to be solved in Steps Three and Four.

Very often the real problem isn't the one that first sticks up its head. The key question in locating the real problem is, "Why do these unsatisfactory conditions (identified in Step One) exist?" After the group has identified the real problems, it needs to determine which one to tackle first.

WHAT ARE THE POSSIBLE SOLUTIONS. Having selected the problems to be solved, the group is ready for Step Three, "What are the possible solutions?" The group "thinks up," what might be done regarding the problem. Too often the group makes the mistake of immediately examining the merits of each suggestion as soon as it is made. They investigate that first "gem," only to find it isn't good enough. They suggest another and examine that, and reject it. Finally a proposal comes out which appears better than the previous "hunches." Much time could have been saved if the advantages or disadvantages of any one proposed solution, had been examined, and several possible solutions listed. Another good reason for concentrating on possible solutions before appraising them is that the mind seldom can do creative thinking and make critical judgments at the same time. Imagine first, then weigh, compare, judge and decide.

THE BEST SOLUTION. The Fourth Step concentrates on "What is the best possible solution?" This is the heart of the whole problem-solving process. Here the decision is made and a plan of action is worked out. Solutions are narrowed down to two or three; the advantages and the disadvantages are examined; judgments are made and a decision or conclusion obtained preferably without a vote. By that time, the group ought to be working so much as a team that a vote isn't required to know how they are thinking.

Often a decision is actually a combination of solutions. Seldom is it one proposed solution as opposed to another.

Too often a group, when it arrives at a decision, feels so good about it that it just quits. It fails to decide who is going to do what; when they are going to do it, and how—the assignment part of the fourth step.

THE SUMMARY. Finally there is the summary—the Fifth Step. The summary has three major objectives. It tells the group what they've done (and sometimes that's a tough job for the leader or summarizer).

To take all the jigsaw pieces of a conference and put them together quickly, so that the group gets a clear picture, is an art. It's like taking a lot of little pieces of colored glass, that look meaningless, and putting them together in such a way that you have a pattern or mosaic. This process usually only takes three to five minutes, but it gives unity to what has been going on.

A second objective of the summary, seldom done in conferences, is to point out what was learned during the conferences, either about conferences or the topic itself. The best time to learn to improve conferences is right after one is finished. One might call it "an autopsy," or an appraisal.

A third function of the leader at the end of a problem-solving conference is to "sell" the group on doing what they decided to do—motivate action, point out to the group how important their decision is, and how valuable will be the result which this decision is going to bring about.

It is comparatively easy to list the major requirements of a five-step Problem-Solving Conference, but it's not a simple matter to develop skill and finess in using the essential techniques. The desire to improve grows, of course, along with the realization of leadership achieved.

The foregoing outline may have created the impression that a leader can take Step One, cut it off sharp, wrap it all up, put it away and then take Step Two, cut it off sharp, and wrap it up and put it away; and so on. That isn't the way it actually works, as the Steps overlap. One can illustrate this in a very elementary way. If one watches a person take five steps in walking, it's difficult to sharply indicate when Step One is completed and Step Two starts. It's not wise to start number three until number one is finished. Each step may overlap the succeeding steps but they shouldn't be mixed up. So it is in the steps of a problem-solving conference.

NINE FUNCTIONS OF THE CONFERENCE LEADER. The question now becomes, "What does the leader do to be certain that the conference proceeds systematically through the five steps?"

When the leader of problem-solving conferences is able to perform each of his functions skillfully, following systematically through the five steps, everything works out beautifully. Of course, there are exceptions that prove the rule. The busy individual is tempted, when he meets a problem, to reach for the telephone and call a conference to solve it immediately. Sometimes that's the best that can be done, for there may not be time to do systematic planning. There are times when we use a different process to put out a fire than we use to prevent it. So we may hold a quick conference.

The first function of the conference leader is *to plan and prepare the program, the materials, and the persons who make up the group.* The program is the agenda. The materials are whatever is needed in the way of data (charts, exhibits) to think the problem through. Too often an agenda is prepared, but the essential working materials are neglected. Sometimes the agenda and the materials are prepared but inadequate effort is made to get the right group together. Preparation is the first job of the leader.

The second major function of a leader is to set the stage and start the discussion. That's where Step Number 1 begins. At that point the leader states the topic, makes clear the purposes, clarifies the situation, arouses a sense of dissatisfaction, establishes freedom to talk and gets the discussion started.

The leader's third function is to stimulate discussion and get everyone to take part. He does this by asking questions. The effective leader must know what questions to ask, what types of questions to ask, how to phrase each question so as to get the kind of thinking he wants and then how to restate it if his first effort doesn't work. There are four basic types of questions he needs to know: (a) *Overhead questions*—addressed to the group as a whole; (b) *Direct questions*—directed to a particular individual; (c) *Reverse questions*—the leader, when asked a question, turns it back to the asker; (d) *Relay questions*—the leader passes the question asked by one member of the group to another member to answer.

The fourth function of the leader is to guide the discussion and keep it on the track. A very simple device is to keep a record of the discussion on a graph representing a "track." The conference starts off very well and keeps going right on the track. Then somebody mentions the union, or the world series, or last Saturday's football game. The discussion moves off the track. It's interesting to keep a record and see how long it takes to get it back on the track. Such a record, showing the number of minutes wasted at the salary that executives represent per hour —15 around the table—will show that all the wastes are not in the shop nor the factory.

There are 15 ways of getting off the track and there are only eight ways to get back on. So the leader has two-to-one odds against him from the beginning. Just as soon as the leader begins to get participation, he faces this function of keeping them on the track.

The fifth function is keep the spotlight on valuable contributions. Occasionally the "tired business man" decides to see a good musical comedy. As the 50 beautiful girls dance across the stage in rhythm to the music, what does he see? One person may see the blondes, others the brunettes, still others the red heads; some may try to see all of them at once. Actually, however, it is most likely that the audience will see that particular girl, or group, who is in the bright spotlight at that moment in accordance with the instructions of the director of the show—those who are interpreting the theme of the music at that moment. In like manner the leader of a conference must keep the spotlight on important and appropriate ideas.

The sixth function of the leader requires that he use tact and friendly discipline in handling "problem members." How many problem members can one have in a conference? Actually, it's possible to identify 14, even when only three people are present! One person can play several roles. There are various ways of enlisting the cooperation of an "offside" individual without imposing a penalty. The inexperienced leader is likely to first use discipline to squelch the person giving trouble. The experienced leader guides the wayward member back on the track in a way that keeps him participating constructively.

The seventh function of the leader is to schedule and manage time so that conferences don't run too long but still accomplish their objectives. One of the toughest jobs of conference leadership is to schedule and manage time. It must be done if conferences are to maintain the respect of the participants.

The eighth function is to make effective summaries. Earlier, Step Number five was labeled "The Summary," but that's oversimplification. Actually, the leader makes a series of summaries. At the end of each step, he may find it desirable to make a one-minute summary of the 15 to 20 minutes' preceding discussion. He summarizes whenever a natural group of thinking has been done. Then he can wrap it up and set it aside. So summarizing is repetitive and progressive.

Finally, of course, he arranges for recording and reporting and for systematic follow through on decisions and assignments.

To carry out the foregoing nine functions and to guide the group thinking through the five steps, the leader uses many techniques.

QUESTION ASKING THE PRINCIPAL SKILL OF THE LEADER. Too often the leader spends a lot of time in preparing what he is going to *say*, instead of *what he is going to ask*. To know what to ask and when to ask it is the leader's principal skill; it's the major tool in his kit-bag. The experienced leader learns that there are certain major questions on which he can depend in almost any type of conference. We know that the scientific thinker is fundamentally a question asker. Unfortunately, schools don't spend enough time teaching persons to ask questions except on the graduate level. They teach right answers and how to formulate answers. When one gets out into life, he finds that there is nobody there to formulate the questions; in life, as one meets opposition or difficulty, he has to start asking appropriate questions before he can start getting right answers to his identified problems.

How does one get a group of people to really make inquiry to get at the essential facts? When the leader says, "What's lacking in this situation?"; "What's

wrong?"; "What's unsatisfactory?"; and "What don't we like about the situation?" he is beginning to stimulate investigation and inquiry. How does he move from inquiry to appraisal and judgment? If the leader feels discussion is inadequate he can say, "Does Bill's statement check with our experience?" He has used a question to promote discussion.

What kind of a question does the leader use when he wants to guide thinking? How does he prevent premature action? How does he get members to sharpen judgment? He may ask, "What are the advantages and the disadvantages of this proposition?" "What would happen if we do this?" "How sure are we?" Here is the really tough point in conferences, how does the leader get decision? Sometimes the leader will ask, "What's the best thing we can do now?" Not, "What's the best thing to ever do?"

How does the leader get decision when about half of the members want to decide one way and the other half another way? At least the leader can ask, "Is there a middle ground?" He starts the two groups looking for something that's common to each proposal.

What we have been saying is that the leader's principal skill is question asking. In the process of training conference leaders, it has been found that the untrained leader will be apt to make two positive statements of his own opinion for every question he asks. On the other hand, the experienced leader will ask three questions for every statement that he makes. That's the minimum. The really experienced leader usually asks five questions to every statement. It looks as if the psychological process of guiding group thinking can be partially described in terms of a mathematical ratio of questions to statements.

Experience shows that the questions have to be built for each discussion. That's the leader's preparation of himself. If the group possesses adequate knowledge and experience to solve the problem, in case real thinking and judgment is brought to bear upon it, then the leader does not have to spend his time thinking out a better answer than the group can think out. However, that's a temptation that too many leaders give in to when they call subordinates together. Too often the head of the group feels he must be able to come up with a better answer than the group. In leading problem-solving conferences, the leader needs to be able to ask the kind of questions that will guide and direct the knowledge, experience, and judgment of the group members. His preparation is not in "brain trusting" right answers, but in preparing to guide the group.

The ability to formulate the right questions requires preparation before the conference, and it requires the ability to "think up" and choose the appropriate question in the midst of a rapidly evolving situation which too often doesn't closely follow the plan prepared beforehand. That ability requires a thorough understanding of the processes of group thinking and familiarity with the technics available to the leader.

Question asking, the principal tool and technic of the leader, is an art that he develops both through preparation and long experience.

CONCLUSION. The leader who has mastered the technics and achieved the art of enlisting group thinking, group feeling, and group action will find that he is not only getting better answers to operating problems than if he thought them out himself; he will get five other important results, as follows:

I. He will increase productivity of individuals and the group as a team. Persons produce more when they participate in the planning and deciding on the action to be taken. There are many case histories on record to show that group thinking has produced larger improvement in productivity than could have been expected from mere engineering or methods improvements imposed on the situation from persons outside the group.

II. He capitalizes on the experience and judgment of the group. No one man possesses all the know-how and judgment required for the complex operating and management problems that arise. Nearly everyone involved in a situation can contribute something. The group mind is often better than even the best individual mind.

III. He frees himself from many details of even his responsibilities. In conferences, members of the group often volunteer to accept larger responsibility and thus relieves the executive.

IV. He fosters coordination. As members of the group sense how their actions affect others, either help or hinder, they develop a willingness to eliminate hindrances and to improve helpfulness. Larger cooperation and teamwork become a valuable by-product.

V. He develops subordinates. Whenever an executive shares one of his overall problems with members of his staff, he broadens the range of each member's interests beyond that person's immediate assignment. As the group deals with the superior's problems, they learn to make judgments one level higher than their regular job assignments.

As members of the group critically appraise the proposals submitted by each member, they learn how to think more objectively, judge more critically, and decide more wisely.

In brief, problem-solving conferences, when properly planned and expertly led, can often be the best way of solving operating and management problems, and, in addition, can contribute in large measure to larger productivity, better coordination and team work.

The key to these desirable results is qualified conference leadership.

Dealing With Difficult Personalities

By Erwin H. Schell

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A CLIQUE has been defined as a group of people of which we are not members. Similarly, it has been hinted to me from time to time that people whom I regard as having difficult personalities are, in truth, those who have found it rather a problem to get along with my personality.

Be this as it may, there is no avoiding the stubborn fact that in any organization problems of difficulty in relation to personalities inevitably arise.

Many years ago at an educational institution, the president, learning of a problem of this sort in one of the important divisions, called the department head to his office. He said to him, "Professor, I have been given to understand that you have some friction in your department."

The Professor responded, "Mr. President, that is correct."

The president countered with the question, "is it not possible for you to eliminate this?"

Whereupon the professor replied, "Mr. President, you are a great physicist, and you know as well as I that wherever there is motion there must be friction. Obviously, I cannot eliminate it. I can only minimize it."

To remove completely such issues is manifestly impossible. Indeed, a trace of discomfort in our mutual relations may be a constructive irritant.

The story goes that an enterprising fish packer built two smacks with great wells for salt water, in which freshly caught fish would be maintained until their arrival in port, where they could be killed and almost immediately packed. Tests showed, however, that in their congested surroundings the fish became listless and the flavor markedly lessened. In great alarm, the owner of the smacks sought out a fish psychologist, who after studying their behavior on the banks, made this report:

"Now and again, as you haul in your catch, you will find a dog fish. Dog fish greatly enjoy the fins and tails of cod fish. By putting a dog fish in each well, you will find that in their search for a

finny meal they will provide ample exercise for the cod fish, which will then come to the docks in excellent condition."

The owner followed these instructions and found his psychological fish problem solved.

The moral is, of course, that every organization can support and may often profit by the presence of a "dog fish." When I have told this story to executive audiences, I am certain that there has come to the mind of each of my listeners a particular face and a particular personality. There *are* human "dog fish" in American industry, and management usually knows where and who.

In a little book written more than 25 years ago and now in its seventh edition, I outlined at length specific techniques for dealing with problem personalities and with such concerning manifestations as conceit, prejudice, irresponsibility, unreliability, sullenness, stubbornness, discourtesy, disloyalty and dishonesty.

A CHALLENGE. This afternoon I should prefer to approach this problem from a somewhat unorthodox angle. Instead of assuming that difficult personalities reflect error in employee selection, let us choose another hypothesis. Let us fall back upon the law of probability, and take it for granted that such personalities will inevitably appear in a normal statistical proportion in any group of w o r k i n g people.

In my experience I have come across such instances in which executives have, upon occasion, completely removed these obstructive tendencies in their subordinates and promoted a constructive temper of mind throughout the group.

How was this done? Upon what philosophical foundation did these executives build their actions? I have never seen the tenets of such a management philosophy put down on paper. The men who have been successful in these matters have had little to offer in the form of specific directions, rules or formulae. So when I lay my ideas before you, I shall have to confess that they are without the support of any quantitative data or objective analysis. They are only attempts to explain that which I have observed.

I recall a foreman whom I knew and admired many years ago. He operated a department of perhaps 100 employees, engaged in processing spare parts and stock replacements in a truck manufacturing establishment. His subordinates were almost entirely men with prison record. Word had gone around in the state in which the plant was located that a man fresh out of jail could probably get a job with this foreman.

Now, it is of course easy to say that such individuals would have every desire to change their ways and modes of previous living; but I can testify that the group of people under this foreman's direction were about as nondescript a body of human beings as I have ever witnessed, and I think I can fairly say that they had more than their normal share of frustrations, fixations and hallucinations with which our friends the psychologists and psychiatrists are familiar.

Discipline was consistently high in this department. Suspensions for periods of days or weeks were not uncommon. I never knew this foreman to fail in his ability to put a man back on his feet in terms of a reasonably constructive outlook and a basis for a satisfying existence.

Let me take another instance. I think of an executive in Connecticut who was known as a "man-maker." When the plant in which he was employed was moved from Bridgeport to West Haven, literally hundreds of employees surged about the employment department seeking a job under him.

He had a long history of picking people out of the gutter and setting them on their feet. He claimed it was his avocation, and he told me of instance after instance where he has accomplished a transition from abject industrial unfitness to the assumption of important operating responsibilities, including cooperative relationships with others.

Let me present a third example. I have seen a research administrator bring to his laboratory research groups composed of highly specialized individuals from various client companies. I have seen these men steadily rise to new heights of creativeness far above those attained when under their own industrial roofs. He has done this over and over again. Somehow he enabled them to shake off whatever influences may have hampered their creative energies.

AN EXECUTIVE OPPORTUNITY. These instances that I have outlined have actually happened. I wish I could be as sure of the *reasons* for their occurrence as I can be of their existence. All that I may properly do is to ask some questions and let you, my audience, decide for yourselves as to the answers.

In each of these instances, it was clear that the constructive adjustment of subordinates to their work and their environment was viewed as more than a disciplinary measure, rather it was accepted as an important executive opportunity and challenge.

- Can it be that leadership tomorrow should not only view its influence as applying primarily to the normal and the gifted but should accept as a further *duty* the provision of a satisfying and stimulating environment to the maladjusted—or, let us say, to the "peculiar?"

Now, the last impression I should wish to give is that a certain state of mind will enable the executive to work wonders with those who report to him. On the contrary, I feel that we are seeing ever more clearly the importance of sound psychological and psychiatric assistance in adjusting people to this increasingly complex world.

Nevertheless, what I have seen convinces me that there are qualities of leadership which cause those who live, move, and have their being under it to cast off, and to banish hitherto gnawing concerns and insoluble problems.

In each of these three instances, there was no question but that the leader had unfailingly returned to those individuals in his care a quality of self-respect, self-confidence, self-initiative and self-control which they had hitherto lost. One of the great illusions of life is that people are common because there are so many of them, and, therefore, they, as common people, are inevitably mediocre. The concept of the spiritual preciousness of the individual lies at the basis of our religion, our form of government and our way of life.

- Can it be that such a leader has an unusually keen realization of the inherent dignity which is an inseparable part of the personality of each of his subordinates?

RESPONSIBILITY FOR ADJUSTMENT. I know of a large company which maintains a research laboratory where these extraordinarily useful and sometimes unusual persons known as research workers are given the widest of latitude. Upon employment they are asked to express their preferences in the matter of the layout and design of the cubicle in which they will do their work. Some wish to work solely on a single problem; others prefer to work on three problems simultaneously; still others, on several. Some produce their best results when working in a laboratory with associates; others prefer solitary confinement.

This policy has yielded results. The company has followed it for years and sees no reason to change it.

- Can it be that the executives of this company accept responsibility for adjusting *environment to personality* no less than adjusting *personality to environment?*

It is admitted that changes in working surroundings along the production line may be limited. Yet, we should remember that desirable alterations in the work surroundings are often psychological rather than material. Effort on the part of management to adjust social environment to personality may become one of the new thrusts toward progress in our industrial future.

Emotional problems are not limited to the workman. I remember a consultant, a man of unquestioned genius, whose temperament was most unstable. His associates were warned, when conversing with him, to watch his left cheek where a twitching muscle heralded a violent outburst of temper. His services were so valuable and his social tendencies so negative that he was finally assigned a secluded office with a private stairway—a further illustration, I suppose, of the adjustment of environment to personality.

OTHER APPROACHES. At times a degree of patience is indicated. I remember an

able vice president of a Wall Street corporation who, faced with the difficult duty of laying unpleasant facts before a choleric executive in a nearby organization, arranged to deliver the petard in writing via the morning mail. The expected result ensued, although the intensity was greater than estimated. My friend sent his office-boy at half-hourly intervals to listen outside the door of the aggrieved, and to report on the nature of the sounds emanating therefrom. My recollection is that it was not until three o'clock in the afternoon that the ebullitions had sufficiently quieted to permit a pacifying interview.

I should not be humble before the truth unless I admitted that shock treatment is sometimes to be endorsed. In analyzing the payroll of an ancient family business facing a receivership, a firm of consultants with which I was associated found a name to which no time-card was assigned. Inquiry revealed that the person was the son of one of the family owners and that he had been for some years paid 25 dollars a week to *stay away* from the company.

When he appeared for his next weekly check, he was informed of the corporate condition and the necessary termination of his absentee-services, whereupon he proceeded to carry out a threat often brandished over his parents, and threw a fit on the floor. The senior consultant, having been duly warned, seized a nearby fire-pail and thoroughly dowsed the young man, who thereupon arose, cursed the consultant and his forebears roundly and lucidly, and left. We never saw him again. In past years, I have known of more than one top executive who, though extraordinarily effective in relationships with stockholders, distributors and bankers, was completely unable to deal constructively with mid-zone executives, to say nothing of employees, and who required the services of a buffer group to isolate him from the personnel of his own plant.

EXAMPLE. It was about just such a person that I recall the remonstrances of the family doctor, who chided his patient about his uncontrolled spleen, saying, "You will have to learn how to control yourself, or you will get ulcers."

"Get ulcers!" bellowed the tycoon. "I don't *get* ulcers—I *give* ulcers."

May I close with a final anecdote?

My father used to tell of a workman who was given to what was then called "temper fits." On one of these occasions the foreman, who was the object of attack, lost his composure as well and discharged the man summarily.

The next morning, as the foreman went his rounds, he was surprised and privately relieved to see the workman back at his machine. He approached him and said, "Michael, I thought I discharged you yesterday."

To which Michael responded, "And that you did, Mr. Callahan."

"Well, how then can you explain your coming back to work this morning," asked the foreman.

Michael replied, "Well, you see, Mr. Callahan, this morning when I remembered that I was out of a job I came down to the gate outside the shop and I asked my old cronies who were going in what I should do and they said, 'Go on back to work. The foreman is such a liar that none of us believe him anyhow, and there's no reason why *you* should.' So here I am."

"Somebody has been giving you good advice. Go along with you," said Mr. Callahan, and returned to his office.

SUMMARY. How may we do better in dealing with these difficulties? As I look back over these experiences, it occurs to me:

Perhaps we should accept heavier *personal* responsibility for the attainment of high morale on the part of those with less fortunate personalities.

Perhaps we should seek new stimulus and inspiration in a greater *awareness* of the inherent dignity and preciousness of human personality.

Perhaps we should search for opportunities to effect a happier adjustment of *surroundings* to unusual personalities.

Perhaps we should discover how to lift our subordinates out of themselves in pursuit of a *common goal* and so, temporarily at least, to *banish* for them those problems which bedevil their lives, away from the work place.

Perhaps, as we deal with those who report to us, we should discipline ourselves to *look past surface manifestations* to motivating causes; to sense deeper understandings than words may convey; deeper feelings than expressions may reveal; deeper aspirations than may be confessed.

Can it be that within every one of us, no matter how odd we may be, there are divine strings which, if plucked by an understanding hand, will give forth a lovely harmony?

The Business Schools and Executive Development

By Stanley F. Teele

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AS a framework for my remarks, I shall make certain assumptions. I shall assume first that I need devote no great amount of time to enlarging on the importance of executive development. If there were such a need, I certainly could testify that in discussions with businessmen, particularly top-management men, no subject comes to the fore more often. For instance, I had the pleasure recently of participating in a full day's discussion in Pittsburgh sponsored by Carnegie Institute of Technology as part of the program at which its new School of Industrial Administration was dedicated. The focal topic was the identification of those areas of administration most in need of careful research. Over and over again, in the course of the day, business leaders participating in this discussion came back in one form or another to the combination of problems involved in selecting, appraising, and developing men with the capacity to serve as general managers. No other problems aroused such spontaneous and deepseated interest.

I shall further assume that you are all fully aware that most of the responsibility and opportunity for executive development exists within the particular organization and that the outside agencies on which this morning's session concentrates must necessarily be supplementary in nature.

My specific assignment is to comment on the colleges and universities as tools for executive development. I shall limit this assignment still further by concentrating on the business schools—the only type of institution for higher education with which I have personal familiarity.

BUSINESS SCHOOLS. As I see it, there are four areas within which the business schools may make clearly definable contributions to the development of executives for American industry over the years ahead. Let me stress, however, that I believe the basic approach of the business schools is and must be experimental. This whole business of executive development is in one sense very old and in another sense very new. We can read, for instance, of the methods used by the great merchant firms of the Middle Ages in developing the future leaders of their organizations. We are told how younger members of the family were sent first to one branch and then to another because of the special skills and knowledge of the partner resident at each of these branches. It was an orderly, conscious training program, well designed for the conditions of the day. On the other hand, the problems of executive development as we think of them today are new—products both of the increased complexity of modern business and of the increased size of business enterprises. The attitude of the business schools must be experimental—must be questioning, moreover—because they themselves are relatively new. Widespread

acceptance of university education for business has really come only in this generation Those of us in the business schools are, therefore, acutely conscious of how little we know. You will get no definitive answers to the problems of executive development from us; but you may count on an active search for evidence and on our most earnest efforts.

My procedure will be to describe briefly each of the four areas in which it seems to me the business schools are likely to make some contributions over the years ahead, and then to suggest some of the considerations which should be taken into account by the individual business in deciding whether the business schools can be useful to it in one or another of these ways.

The four types of contributions to executive development to which I have referred are: (1) research; (2) the regular programs of instruction of the schools; (3) special programs developed by the schools, usually running for relatively short periods of time; and (4) programs within companies either offered or developed by Faculty members of the business schools.

RESEARCH. In the long run, one of the most significant contributions to be made by the business schools may prove to be in the area of research. Two different kinds of activity in this area deserve mention. One kind of research involves the examination of the problems and practices of many different companies with the distillation from these experiences, together with the careful thought of the investigator, of helpful approaches. Two such efforts, undertaken within the Division of Research at the Harvard Business School, are *The Growth and Development of Executives,* by Professor Myles Mace, and *Developing Men for Controllership* by Professor Thorton F. Bradshaw. A very brief summary of Professor Mace's work will serve to illustrate this type of research. A major conclusion of Professor Mace's study is that the most effective way of learning what is involved in the performance of executive functions, is by doing. Learning by doing is found to involve two main segments—job progression and coaching of subordinates by superiors. This latter, the coaching of subordinates by superiors, is central in executive development in Professor Mace's view, so much so that he equates coaching and administration. He finds that the essential elements involved in coaching may be set forth as:

I. Subordinates must be given opportunities to perform.

II. The superior must counsel subordinates, using the work situation as the framework for counseling.

III. The superior must create a team of his subordinates, sometimes described as motivation.

IV. The relationship between superior and subordinates must be characterized as one of mutual confidence, a climate of confidence.

V. The superior must set the standards of performance.

Professor Mace then recognizes and emphasizes that the central problem is getting coaches to coach and makes certain suggestions along these lines. Repeated studies of this general type will prove useful, not only to keep us all up-to-date on new developments, but also to present differing points of view and interpretations.

The other type of research for which the universities are peculiarly well-qualified may be described as the examination of the fundamentals of executive motivation and behavior. Most of you are familiar with the well-known experiments at the Hawthorne plant of Western Electric Company. There is much reason to believe that executives differ very little from workers in the importance of group sentiments and group customs in influencing their behavior. In the years ahead, careful research should illuminate much in this area and throw light on how best to help men recognize and adjust to group realities.

STUDENT PROGRAM. The second area of significance is the regular programs of the business schools. I suppose all university business schools hope that they are helping to educate men for potential usefulness as executives. This is not the time or the place to argue the general case of university education for business administration, rather, I should like to direct attention to one specific aspect which has been appearing at the Harvard Business School. In our two-year program leading to the M.B.A. degree, there have been a very substantial number of men who have come to us in recent years not directly from undergraduate colleges, but from one, two, or three years in business. We have welcomed this development and we have noted with interest the extent to which a few companies have gone in encouraging such a trend. As many of you know, some of our larger companies have developed elaborate programs for recruiting college graduates and putting them through a development program within the company involving job progression and alternating periods of intensive intra-company schooling. There is just beginning to be some interest in still another step, that of encouraging by financial assistance and in other ways, men who have gone through the internal company development program, to take a leave of absence to work for the M.B.A. degree. Serious difficulties in the way of widespread extension of this practice will occur to you. Many companies will be concerned lest there be no return on a heavy investment because the men go to work for other concerns following their period in the business schools. Still other companies will feel that two years is far too long for such educational activities. Nevertheless, I mention this as an interesting development which needs to be watched.

SPECIAL PROGRAMS. I should now like to shift to the two types of activities which are perhaps of most interest currently, namely, the programs operated by business schools for experienced businessmen, and the programs within companies either offered or developed by Faculty members of the business schools. In the case of the former, since the number of such programs is being added to steadily, I shall not undertake a complete catalogue. The programs about which I know number close to 20, and there are no doubt others in operation or in contemplation.

I hope I may be forgiven if I center on our own Advanced Management Program, both because I know that best and because it has undoubtedly had considerable influence on programs at other institutions. This Program is operated by the Harvard Business School twice each year, in the fall and in the spring, and runs for 12½ weeks. In each group, there are approximately 150 experienced businessmen, nominated and financed by their companies. There are no educational requirements for admission to the Program. The only common denominator is the years of experience and the successful management record. Typically the men are in their early forties and have had more than 20 years of business experience. They live together in one of our dormitories and all take exactly the same courses. They study Cost and Financial Administration, Marketing Management, Business Policy, Problems in Collective Bargaining, Administrative Practices, and a course entitled Business and the American Society. Throughout all these courses the work centers around the discussion of specific business problems.

The present Program was by no means planned in advance. It evolved from beginnings quite different. Early in the war a program was developed to help men in finance and marketing convert themselves quickly to useful activities in production. As so conceived, it was sponsored by the Engineering, Science, Management War Training Program of the Federal Government. At the end of the war, the question of discontinuing the program arose, and it was business itself which strongly urged the development along the lines of the present program. There have now been about a dozen sessions of the Advanced Management Program in its present form, and over the years we have heard from enough of the men and their associates in business to have at least the beginnings of a picture of what can happen to men in the Program. For some men, of course, the 12½ weeks represent no more than a pleasant interlude during which little or nothing is gained. For the majority of men, however, the gains seem to lie in three categories.

BROADENING EFFECT. In the first place, there is the broadening influence. In commenting on the Program, men over and

over again stress the narrowness of their experience in business. The competition within our larger business enterprises, at least, is clearly so severe that most men feel they must concentrate their energies and efforts very sharply on their particular activity, and as a result most other functional aspects of the enterprise remain thoroughly alien territory. Along with this lack of knowledge, there grows up to differing degrees in different men an emotional antagonism which clearly colors, and, indeed, may dominate the working relation among the different parts of an enterprise. The decision that our Advanced Management Program should be aimed not at helping to make good specialists better specialists, but rather at helping to make good specialists better generalists, if I may use the word, is clearly in profound accord with deep-seated needs of many businessmen. Our experience points toward the conclusion that this purpose requires attention at both the intellectual and emotional levels.

What features of the Advanced Management Program contribute to this purpose? Partly by design and in part by good fortune almost all elements in the Program contribute. In the selection of men to attend each Session, we look carefully for a variety of backgrounds; we see to it that many different industries and companies are represented; but even more important, we see that the major functions of business are represented. So far as possible, therefore, each section of 75 men includes within it men from widely separated geographical locations, with different industrial and company backgrounds, and from the whole range of functional specialties. Sales managers, controllers, research directors, plant superintendents—all are included in the group.

Then, too, the men live together in one of our dormitories and careful attention is paid to putting together as roommates and within closely associated groups of rooms, men with markedly different backgrounds. In our view, much more than half of the educational value of the Program is achieved outside of the classroom, but is triggered by what has occurred in the classroom.

Finally, all these men, whatever their backgrounds, take exactly the same work and this work consists of the analysis and discussion of business problems. In other words, a man with 20 years experience in a controller's department is asked to examine, think about, and discuss concrete problems of the marketing department, and the sales manager, along with his controller classmate, tries to work out a cash budget. The case provides not only a useful intellectual exercise, but also an opportunity for men to express themselves through an impersonal medium, and therefore to some degree at least rid themselves of prejudices and hostilities toward other functional specialties.

All of these elements combine to permit each man to have an intellectual opp rtunity to understand the problems of other parts of his business and to develop a sympathetic and interested attitude toward those unfamiliar problems.

A second highly significant cluster of comments from former participants in the Program is of the same general character, but perhaps even more fundamental. Men tell us about an increase in open-mindedness as a result of the complete breakaway from the regular routine of a particular company; they have a chance for deep thinking about their company in relation to the policies and practices, the attitudes and atmosphere, of other companies. Professor Myles Mace, who currently teaches the Business Policy course in the Advanced Management Program, tells of a report which a responsible executive gave to his president on his return to the company from the Program. He wrote, in part:

> "The free exchange of ideas by a group under the guidance of a skilled moderator by its action produces a reaction in each participant. Initially he approaches the problem of the case with conviction. But as discussion progresses his convictions weaken, deteriorate, and finally evaporate. As this is repeated class by class and day by day, it produces in him inner doubts and uncertainty which gradually develops a sense of confusion and frustration. With this emotional stimulant there begins a keen inner searching and self-examination of each man's attitude toward life, people, and business. In this period, a growing awareness develops of the frightening broadness of all problems that he deals with, and the necessity of mutual cooperation in their solution. The value of sharing the problem with others to obtain new viewpoints and suggestions is not only realized but is actively sought after. Once this realization has been achieved, the emotional level rises again, strengthened by this new awareness to a higher level than that from which it started. At this point, one's attitude and outlook takes on a new complexion, and the desire to improve becomes well established."

One special aspect of this open-mindedness deserves particular attention. Among the courses offered in the Program is one called "Business and the American Society" where the entire emphasis is on the place of business and business leadership in the community as a whole. This part of the work is for many of the men a painful and at the same time a highly rewarding experience. Similarly, the subject concerned with human relations in business seems to provide a tremendous opportunity for men to cast off the heavy scales of misunderstanding and really to recognize that the core of administration is people and that there can be no long-continuing effectiveness in administrative work without a genuine understanding and concern for the development of the associated group as business administrators and as human beings.

The final area which bulks very large indeed for a small number of men is one about which I am hesitant to speak because we know so little about it. Nevertheless, for some of the men the most important consequence seems to be the acquisiton or a rebuilding of a conviction as to the real importance of effective business administration to society as a whole. Surprisingly enough, many highly successful executives, perhaps because of the extreme specialization in very large business enterprises, come to us with genuine doubts as to the real value of what they themselves have been doing and as to the fundamental usefulness of business as a whole. For the men so affected, this development is of the utmost importance, since inner conflicts as to the basic consequence of one's activities are potent indeed in reducing personal effectiveness.

I am indebted to Professor Walker, who has taught in our Advanced Management Program through many sessions, for the following quotations from conversations in his office. As Professor Walker puts it, men close to the day of leaving for home come in ostensibly to talk over some technical matter but over and over again almost immediately shift to a discussion of what the Program has meant to them. The comments go something like this:

> "Now I don't want you to misunderstand me, the courses have been fine, and all that. They have done a lot for me. The big thing is what the whole experience has done for me *personally* (always with marked stress on this qualifying word)."
>
> or
>
> "I mean it has helped me to think through what I'm up to, especially to think about my company, how well it is doing its whole job, and to see more clearly what my own relations to my company are, and what my responsibilities to it are . . . It has helped me get a new hold upon myself. From now on I believe I'm taking off from a new and, I think, a higher level. . . ."
>
> or
>
> "I mean it has given me a relaxed attitude toward things; it has given me confidence—for the first time I'm beginning to present my own ideas about things or challenge the ideas of others and not just accept them as a matter of course . . . Things have begun to come out from under my skin that I didn't realize were there. . . ."
>
> or
>
> "I'm beginning to see that businessmen have professional responsibilities, that service to the community apart from the commercial sort has a top precedence, and I'm beginning to see myself as a member of a new and great profession, perhaps one encompassing all others, and new challenges of things to be done, and I'm getting fun out of it all. . . ."

PROGRAMS OUTSIDE THE SCHOOL. Now I would like to turn to the fourth and final area. Within the last two or three years, there has been a development new

to us at the Harvard Business School. It may not be new in other faculties, but I have not heard much about it elsewhere. This development is the practice of individual faculty members going into a particular company and operating an executive development course for a group of executives within that company. During the last two years, Faculty members at the Harvard Business School have done this for some 35 different organizations including mostly large business concerns, but also for non-profit organizations like the American Red Cross. These programs have differed from each other in many ways, but have had a few elements in common. They have differed as to length of time, ranging from programs set up for three to five-day periods of continuous meetings to programs extending over a number of months with meetings only once a week. They have differed as to number of participants, running from 12 in some cases to 60 or 70 in others. They have differed as to physical arrangements. On the other hand, they have had in common, first, the utilization of specific business cases as the basis for discussion and, second, the development of an awareness of the importance of human relations in the administrative process as the major purpose.

In so intangible an area as the development of administrative capacity, results are naturally hard to appraise, especially in the short run. Nevertheless, judged by the test of the conclusions of the executives of the companies concerned, some of these 35 programs have been outstandingly successful while others have fallen far short of the goal both in the judgment of our Faculty members and the company executives concerned. We have not reached anything like definitive generalizations as to the causes for the difference in results, but we certainly have some tentative conclusions. The most important single factor determining probable success or failure seems to be the degree of interest and approval of top management. If the participants are encouraged to give the program a very high degree of priority, and if it is evident to them not only by words but also by actions that top management considers the activity important, then a degree of effort and attention is achieved which seems to be very nearly an essential in this type of program.

In the second place, it seems reasonably clear that to make the discussion of business cases fruitful, sufficient time must be allotted to make sure the participants get the hang of such discussion. Something like 15 meetings seem to be about the minimum really to begin to get substantial benefits. Incidentally, there is an interesting and actively discussed problem as to whether it is preferable to use cases drawn from within the particular company or to use a standard collection of cases covering many companies which has been prepared at the Harvard Business School. The use of company cases has the advantage of quick familiarity with the surrounding circumstances, and the by-product of an increase in knowledge of company policies and procedures may be of some value. On the other hand, it is frequently of considerable emotional satisfaction to the participants to find that other companies and other industries face the same types of disturbing problems. Even more important, the case drawn from a remote company is sufficiently impersonal to permit a thorough-going discussion of highly explosive issues. Naturally a great deal more can be said about this interesting type of activity, but time will not permit full coverage, and perhaps what I have said is sufficiently suggestive.

SOME CRUCIAL ISSUES. I should now like to conclude by summarizing briefly what seems to be the crucial issues to be faced by a particular company in deciding whether or not either one of these forms of business school activity will be valuable. By all odds, the most important decision relates to the purpose sought. At one extreme, a company may have a very broad interest in enlarging the general background of its executives with regard to economics, political science, or even literature or mathematics. One well-publicized company president argues that all executives should always be studying something, not so much for the subject matter, but because the very process of learning in any field stimulates the mind for business activity. At the other extreme, a company may have the purpose of helping its executives acquire a specific skill such as a particular foreign language or a specific piece of knowledge such as the company's personnel policies and practices. In between lies the area of the growth of general administrative capacity. Any program proposed by a business school or a faculty member should be scrutinized carefully against the yardstick of the purpose sought.

The second issue to be faced is whether the emphasis should be on the particular company or whether the broadening influence of association with men from other companies and other industries is desired. In general, obtaining this broadening influence will cost the company a very much larger sum than would be the case if the program were carried out within a single company.

The third issue centers around the degree of importance which the company is willing to assign to the project. Unless top management is willing to assign a very high priority to it, our experience suggests that the business schools either operating a program on their own grounds or within the company are not likely to make much of a contribution. Perhaps it is fair to conclude with the observation that this last point applies to any phase of executive development. We say at the Harvard Business School that the overwhelmingly most important job of the central administration is the selection and development of the School's Faculty members. It seems to me that this is equally true for the top management of any business enterprise, and that no tool can be found that will do the job without that kind of attention.

Business Papers — A Cosmic Tool Of Executive Development

By William K. Beard, Jr.

President, The Associated Business Publications

THE modest views I am eager to share with you have been readying a long while—during all the 28 years I have worked in, and for, the business press. Longer, really. For my father preceded me in this field of effort, and I literally sprouted and grew up in a businesspaper environment. I mention this only to suggest to you that what I say stems from long association and deep convictions.

To the question: Is the business press a useful tool of management?, the clear-cut answer must be *of course!* By its very nature and purpose it is; and especially in managements *never ceasing* concern with executive development.

What I am hopeful of doing is to focus your attention on how this abundantly available facility can be put to still better use. Your program is tuned to the challenging word "better"; I'll try to keep "on the beam."

READERSHIP. As a starter, we need some yardsticks on the *capacity* of the business press to serve management purposes. You can get one informative measure by exploring its *reader penetration*—how deeply it reaches into the personnel structure of our economic life. We quickly discover that nearly all men and women at a job level of any stature, or who are serious about getting ahead, regularly read at least one business or professional journal.

There is a hold-out fringe, naturally: the chronic non-reader who "play it by ear" and think they're in the know—those with bad eyesight—the poor in spirit who have closed their mental intakes—the just plain know-it-alls.

Checks and polls and surveys galore reveal about an eight out of ten "exposure" to the editorial and advertising diet provided by business publications. That holds true across the sweep of titles and ages,

and in a kaledoscopic array of occupations.

To illustrate, the group here should be an accurate sampling of men in junior and senior managerial posts—a bit upper-crust, maybe, but well diversified by income and titles and age brackets, kind of business, and so forth. I feel certain a showing of hands in this room would demonstrate that a good 80% of you have a pretty intimate and long-continuing relationship with one or more periodicals of your chosen vocations.

I would also wager that *no other* tool of management has such a *cosmic* contact with men in jobs.

This factor of reader penetration is significant because it means that an efficient, low-cost vehicle exists which *reaches out and cultivates* the fertile and alert minds in our business society. In this business paper audience (estimated, incidentally, at a stout 25 million) are most of *today's* management people. It is infinitely *more* important that the readership embraces the largest slice of *tomorrow's* bosses—those hungry-to-get ahead youngsters we are so ardently anxious to bring to productive maturity. This is, happily, the most sensitive and responsive target for any carefully conceived program of executive development, as I'm sure you will all agree.

SPECIALIZATION. Readership penetration suggests another rich characteristic of the business press: its *boundless specialization*. Of the making of business journals there is also no end, and you would search hard and long to find a nook or niche in our economic pattern which didn't boast one or more covering publications. We should remind ourselves that *vocational specialization* is the reason there is a business press, its cause and effect, its alpha and omega, the absolute guts of its performance.

We have a fine and flourishing business press in America—far and away the best in the whole world—because *job interest* is such a compelling part of every ambitious man's makeup. It is good because the audience makes it good.

The business press offers management what one publishing house aptly calls America's inter-com system, a sharply tuned connection with the preponderant majority of keen-minded, *growing* individuals, operating on a wave-length of their amazingly diversified job interests. You don't merely *reach* them through the medium of their business paper—you meet them in the atmosphere, and through the powerful attraction of their particular kind of work.

Do you seek the job environment of architecture, supermarkets, or railroading? Are you concerned with power engineers, advertising men, or production specialists? Have you a purpose in ferreting out the alert-minded men who build bridges, sell housewares, or design jet engines? They're present and accounted for on the subscription rolls of responsible business journals—adding up to a vast reservoir of *specialized* readership, ready for a host of wholesome tasks management can—and does—put it to.

What, then, are some of the ways the versatile business press can help management attain its crucial goals?

First, you must have an articulate awareness of the intellectual muscle-power its readership represents—pinpointed, to repeat, to the specifics of job interest and needs. I'm afraid the trees and forests are with us again. Businesspapers are such a commonplace, every-day part of our individual experience we are only too rarely prompted to stop and seek perspective on their inherent purposes and values.

THE RIGHT PERSPECTIVE. On a rainy vacation day I chanced on a copy of Thoreau's WALDEN and found rewards that escaped me on a "must" college reading list. An eight-word sentence leaped off the page and lingers pleasantly in my mind—the appealingly simple: "I have travelled a good deal in Concord." Years later, as you will recall, a Philadelphia preacher galloped to immortality and launched a college with a perennial sermon he called "Acres of Diamonds."

Russell Conwell and Thoreau told us, eloquently, that there are riches all around us, if we have the wisdom and perception to see them—and the plain *gumption* to put them to good use. I believe earnestly that there is still much uncultivated soil in the "Concords" of the business press.

Here are *six* easily-grasped things you might do to increase *your* yield:

BE A GOOD READER. Keep on being a good reader. Often a man who has "arrived" sheds his businesspaper as if it was something altogether adolescent. There are strong reasons why management men should be avid readers of business papers. Topping the list would be the all-out importance of keeping abreast of new developments. The biggest word by far in the business editor's vocabulary is "NEW." He is everlastingly searching for whatever is new in the field—new ideas, new processes, new products, new headaches, new opportunities. If that isn't steady diet for management people, then I'll go hide in the corner.

The boss should also set a good example, and not too subtly let it be observed that *he* takes the time to digest his businesspaper. It can be done easily enough and without affectation. Even as simple a thing as being seen on his way home with a paper in his pocket conveys a potent suggestion. Let him be a live demonstration that business paper readership is, in honest fact, an instrument of growth.

Then, too, the management man should know what is in his business press so he can do something with the usable information he uncovers. He can act on it himself, or pass a word along, or plan some course of action. He shouldn't complacently assume that news will reach him automatically. He should be his own business paper explorer and interpreter.

RESPONSIBILITY. I would plead with you to feel a real sense of partnership with the press of your industry or profession, and to be an *active* partner. It is *your* businesspaper, serving *your* interests; it is *your* responsibility to help it do the job well.

How? By forthrightly sharing good editorial fodder. By being *constructively* critical of editorial objectives and content, the pat on the back as well as the kick in the pants. By refraining from effort to coerce editorial opinion, or trying to get away with puffs and something free in the way of publicity. By a host of large or small things you can do to show that you have pride in the press that serves your business, and sincere desire to help it do a better job.

ENCOURAGE READING. Take definite steps to stimulate reading along the lines of executive horsepower. It's axiomatic, isn't it, that a *well informed* employee group is a *better* employee group.

An excellent way to lubricate reading is to encourage personal subscriptions, and hundreds of companies have done this successfully by offering to pay part of the cost. Not *all* of the cost. The combination of the employer evidencing desire, and the individual investing his own money, has the best effect. If you don't have a company half-pay subscription plan at work, I warmly recommend it to you as a rewarding investment.

Another reading appetizer is to give your people regular samplings of material appearing in current issues. This can be done by putting articles on bulletin boards, plugging them in staff bulletins or house organs, circularizing reprints, and a dozen more ways, This is a fine project for the company librarian, or some other specified and properly equipped member of your staff.

I believe the matter of stimulating business reading is important enough to warrant serious consideration of a course in the technique of reading properly within your own group. That's a big subject in itself, and one I have neither the knowledge nor time to plunge into here. We are gradually discovering that ability to read with speed and comprehension is a *learnable* technique, which once acquired is an enormous asset to any man in business. Remedial reading courses are being given in increasing numbers in our schools and colleges and in adult educational circles and are certainly proving feasible.

Hasn't management been slow in grabbing at this tool of executive development?

INTEGRATION. Fourth on my list has to do with integrating editorial content with company training programs, and conferences, and in other ways making concrete use of pertinent material. Probably this is the most frequent use management makes of the business press, and the most practically effective. Examples are all around us of businesspaper content being applied to apprentice and cadet engineering training, foreman and supervisor programs, in study groups and so on. Pro-

vocative articles, like studies on cost control, frequently are the cause of special meetings. "How to" stories are abundantly employed in sales staff get-togethers.

What I think is important is that collective use of this fine resource should be *organized.* It shouldn't be dependent on somebody's impulse or inspiration. Every single issue of a soundly edited business paper is laden with pay dirt. It should be mined and processed and marketed systematically and efficiently.

ADVERTISING. I wouldn't be a bit shy about dragging in a commercial, but that —honestly—is not my present purpose. I advance two reasons why management men, in their own good interest, should take a hard *new* look at the purpose of advertising content in their business press.

The first grows out of today's critical need for better ways of doing things (which of course is the theme-center of your conference). The advertising pages are a full dress parade of the latest and best in new products, new applications, new ideas, as offered by leading suppliers. The ads work like a pair of scissors with the editorial pages. (By the way, that's another distinctive characteristic of business papers—the close functional relationship of editorial and advertising content.) The man on the hunt for new developments, and what smart business man isn't, can scarcely risk passing by this busy shopping center.

The second point deserving your consideration is the intensified role that advertising *must* play in marketing our increased capacity to make things. Too little attention is given to the need for greater productivity in distribution, an assertion we're hearing so much these days that I merely mention it and hurry on.

Of course all forms of ethical advertising will need to be put to better use in this gigantic selling job. The particular point about business paper advertising is that it affords the greatest opportunity of sharp-shooting at a sales target. I can put this idea before you in a dozen words of my own association. "All *good* selling is specialized—and *nothing* specializes like the business press." Keep that in mind when you think about advertising, on both the sending and receiving ends.

SET HIGH STANDARDS. The *last* in my proposals for sweating more good out of business papers may seem hard to get your teeth into but is fully realistic just the same: I plead with you to *expect more* from your business paper. Keep the heat on the publishers to give you better and better service. It is right that they should, in our common effort to lick the awful headaches and reach for the rich rewards we're talking and thinking so much about.

There are so many ways we can do better; though I wouldn't dare mention them if I couldn't, in the same breath, assure you that we are in there trying, and trying hard and with exciting results. Here are just a couple:

Business papers must be edited for easier and quicker reading, which is quite apropos of my earlier point about the need for more reading ability. Techniques of editorial presentations are improving, but not fast enough. Business papers must do a better job of screening material, of briefing it, of projecting it in chart and picture, of style-izing text to fit the special audience—all aimed at giving busy people meaty stuff, *fast* – and sharply focused.

We must learn how to serve your *whole* job interest more effectively, so you can get more of what you need from fewer sources. It's perhaps a fair criticism that business papers have stuck to too narrow editorial menus, though a broader approach could risk our great purpose and strength as specialists. It needs skillful balancing, for in the extremes of both directions are sorry pitfalls for reader and publisher alike.

Business papers may need a broader horizon, so they can help to relate and interpret the goings-on in the world to your immediate task. What part do politics, international affairs, even things of the spirit, play in your jobs? What should your business press give you on them?

These are challenging thoughts. They are advanced to give you the feeling, if I can, that business papers are also struggling to find better ways of serving readers. Their own future security and success depend on how well they do this.

KNOW-HOW. We business people, along with the rest of the race, have an odd and sometimes amusing way with words. We concoct a neat sounding tag for something—like operating level or reaction, or psychological impact—grab onto it like fury, play it until it becomes a boring cliche, and scornfully toss it in the ashcan.

There are two bits of business lingo in such heavy use nowadays we may lose them if we aren't watchful, and I hope we don't because they keynote the essence of America's economic genius. You guessed them: "Productivity" and "know-how."

These are words for which the business press has great attachment, because its very special function is to ferret out, record, explain and interpret the *know-how,* which gives us our *productivity.* People get business papers to read about *know-how,* and they turn this know-how to *productive* use. Without *know-how* there would be little productivity and *no* business press. How thoroughly and skillfully editors scour a field for the latest in *know-how* which spells the quality of the editorial job being done. It spells the reader reward. It spells the intensity of readership. It spells the whole concept of good business journalism.

It is because *know-how* is so terribly important to all of us right now that businesspapers are performing such a timely and useful service to management. It is why readership is probably at an all-time peak, in intensity, and quantitatively. Few of us pretend to know even some of the answers these days. We're straining and struggling to find better ways, and we're eager to find them where we can. In other words, from top down, we're willing to learn.

At the risk of getting preachy, may I use as my sign-off the thought that we can all do our jobs better if we're willing to read to learn more about them—which is the reason businesspapers are here. Putting it another way, and borrowing another fellow's epigram: "We grow as long as we're green." In that pleasant idea, you can taste the flavor of the business press, and put your finger on the reason it is such a stalwart and versatile tool of executive development.

The Management Consultant As a Tool For Executive Development

By Donald P. Hess

President, American Bosch Corporation, Springfield, Massachusetts

TO begin, I should like to give you some background information. I happen to be the head of American Bosch Corporation and Vice Chairman of our subsidiary, Arma Corporation. For a period of 18 months I acted as President of Arma, in addition to carrying on my job as President of American Bosch. We employ about 11,000 people and we expect, through the use of new Arma plants on Long Island, to expand this number to about 14,000.

It has been necessary for me, over a period of some 14 years, to make use of management consultants in many phases of our business. During this period we have had a world war which necessitated the expansion of our operations. As you know, a comparatively calm period of readjustment followed, and, since Korea, we have again experienced a decided upsurge in all military planning and production. During this process, I found from actual experience that the staffs of our corporations were not adequate to meet all requirements, and, therefore, took advantage of the skilled services of many management consultants.

Time does not permit me to discuss all of the phases of our activities where we used consultants, but I will be most willing to discuss this in detail with any of

you at any time. Naturally over such a spread of time and effort, my associates and I did learn a great deal about the use of management consultants, and I will attempt to outline, briefly, some of the things we have discovered.

I am thoroughly familiar with the old adage that an outsider cannot know as much about your own business as you do—also the one about the very able superintendent saying "no outsider can tell me how to handle my men." Years ago, unfortunately, this was true in many cases, but thanks to modern, intelligent use of management consultants by present-day managements, it doesn't work that way.

We, like many other managements, have used consultants where our own staff was either not large enough or adequately equipped to develop new plans and programs to meet a particular need. Often in such instances speed of accomplishment was a determining factor. Sometimes the need of a permanent specialist staff was not a continuing one. In such instances, management, in effect, has augmented its staff with specific skills and technical "know-how" for a limited period.

Such needs, for example, might involve: rapid revision of space allocation, design of new facilities, specialized recruitments, analysis and evaluation of jobs and organization relationships, and many others.

Another frequent use of consultants arises when a management, preoccupied with problems of planning, administration and control, wants to review its competitive position regarding current practice in a particular field, or check its own analysis and conclusion before embarking on a significant departure from an established policy or practice. The advantages of objective, impartial examination and appraisal by qualified specialists with broad current experience are recognized as good management practice today, just as much as a periodic audit by a firm of C.P.A.'s. Such, for example, would apply to an examination of production controls, cost and estimating procedure, wage and salary administration, also product studies concerning additions or deletions to the line, and the like.

Generally speaking, this is so-called "natural stuff," and I believe we are no different than other managements in finding it quite successful.

However, I have found there is one phase where management consultants have not been used to full advantage. I don't know exactly how to describe it, except to say that I have found that consultants can be used to greatly enhance executive development. I grant you this may sound strange, but it does work out. I admit very frankly it requires a bit of diplomacy by the boss, but, here again, I modestly say that it does work.

CONSULTANT AS A COUNSELOR. We, like many others in any period of expansion, not only have to bring up new young talent, but quite often we have to "perk-up" the thinking of the older talent. Again, like others, we use the old and well-tried prescribed methods of management conferences, group sessions of executives and sub-executives, training courses, etc. They are all good, but I have found that given the right background by management, the consultant, assuming of course he is skillful and diplomatic, can be of great service in bringing out the best in many executives, as well as in the development of new talent. He does not proceed to tell the interested executive how to run his job, or use any such crude approach. On the contrary, with the older executive he can serve as a counselor who can give dependable advice.

We have all had the experience where the mere opportunity to get-it-off-the-chest to the right person seemed to miraculously clear up a problem. A bit of sound advice, knowledge of the fact that others with similar responsibilities in other companies are having similar headaches, the ready availability for telephone conference with someone who understands *his* problem—all can work wonders in relieving internal conflict and restoring assurance. Again, with the younger, or new executive he can serve in his real basic capacity as an advisor. In both cases he can do a real job. I have come across at least a dozen cases, recently, where executives with plenty of experience were falling down on important jobs, and in all of these cases I have seen to it personally, that these executives have had plenty of time to spend with certain skilled management consultants. The results have been far above my expectations, and every one of these executives is doing a splendid job under today's difficult operations.

At the same time, we in top management have to recognize that some of these problems have a real foundation which somehow has escaped us. The semi-detached perspective of the consultant can often spot immediately those weaknesses in communication, handicaps of inadequate or overlapping authority and similiar problems that occasionally creep in quite unintended.

Before retaining any consultant, I would want to make very sure that in addition to adequate technical knowledge, he had a maturity and personal qualifications to be able to contribute to the further development of the executives in my organization with whom he would be working. After all, the consultant's primary function is to advise and assist. It is up to us in management to make the decisions and direct our organization in achieving our objectives.

I take no credit in offering the suggestion to management that they explore the use of management consultants for this vital purpose of executive development. It was a thought given to me some time ago, and I frankly admit that I questioned its validity to a marked degree. However, necessity does a lot of things, and some years ago when our need for rapid executive development became urgent I decided to give it a try. That primarily is why I am here today. We did give it the good old fashioned try, and it worked, so I am glad to recommend it to all of you.

Professional Societies — A Tool For Executive Development

By Thomas M. Linville

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TWENTY-FIVE years ago, as a new member of the American Institute of Electrical Engineers at the first professional society meeting I ever attended, it seemed to me with my youthful outlook that the giants of General Electric and of Westinghouse engaged in a furious set-to comparing experiences and deductions. What happened at that session was that professional development touched every man present, for no one could have come away unaffected. Unfortunately, in recent years there has been less of this outspoken, exchange of thinking. This is one of the evil aspects of a world in which confidence and friendship between nations is lacking. When enemies may be lurking, you stop talking about technical know-how.

This condition raises the question: Are the professional societies a tool for executive development to which the executive can turn for practical assistance? I think so and will tell you why in the hope that my thoughts might contribute to the sharpening of the tool and greater use of it.

SAM—A TOOL FOR EXECUTIVE DEVELOPMENT. A picture of the early roots of the Society for the Advancement of Management is given by the following words from a talk by Robert T. Kent. Speaking to the Taylor Society at the 20th Anniversary Dinner in 1931 about the origins of the Society, he said:

> "Those were troublous days, but they were happy days. We would meet together. One member would bring up a problem that was perplexing him, and all hands would turn to its solution. We began to gather data, to collect time studies, and to—create a society which would promulgate the principles laid down by Frederick W. Taylor—in order that there would be available at all times for the members an authority on all questions of management, and one

to which any person could turn for advice on any perplexing question relating to management."

The first president of the Taylor Society, Mr. Dodge, said, "This is not a movement, it is a religion. . . ."—"Taylor in this (religion) is comparable to the Almighty. There are a few apostles, Gantt and Barth and some others. There are a number of disciples. . . . The rest are (fervid) members of the church." These words show the spirit that actuated the Society in the beginning.

From this, it seems to me there can be no doubt that here was executive development in action at the very first meetings of the Society. They met together; they exchanged experiences; they found helpful ideas and were there to exchange them with all who would come and participate. It was neither wholly give *nor* take but give *and* take, in person.

Some 25 years later, at the time of transformation of the Taylor Society into the new SAM, the picture comes into focus from the following paragraphs taken from the first issue of the SAM JOURNAL.

"It should now be possible to do a more sustained job—to advance the science and art of management implies bringing more corporate management and executives into awareness of the best modern methods. It implies pushing out into pioneer territory exploration of new management problems.

"Management as a science and art is a *social* science and art. The apparatus of the social sciences is different from that of the physical sciences.—It is different for many reasons, but fundamentally because the test of *what is true* is far less easy to determine than in the physical sciences. And the possibility of validation of what is true by actual experiment is far less easy. For what is true in social, human concerns (such as those of management) is not quickly discovered or proved. 'The long term result' is always the qualifying factor in evaluation of management methods.

"(Managers) can be members of a profession but the price they pay for this distinction is a real one. It is the price of knowing what is good in management principles and practice for society as a whole and of struggling for that good.

"It is the recognition and definition of a professional standard and an ethical obligation which are the true justification for a management society today—and for *our* Society.

"Let us do everything possible to bring the less well equipped up to the best known practices of today."

After this look at the purposes of SAM, we can answer the question: "Was the new SAM a tool for executive development?" The answer is certainly yes.

Yet, it can be sensed now that SAM was to be something more than a meeting place for executives to exchange experiences face-to-face. It was to be a professional society aiming to set standards against which the professional attainments of a person could be measured. It was to define the ethical obligation that the professional person would live up to. These things would be taught and held out as attainments distinguishing the members of the professional fraternity. Thus, the Society would be still a stronger tool to help develop the individual because of high goals set for attainment.

At the same time, certain potential dangers were created that had to be watched. Would the standards be progressive or static? Would the ethical obligation be a preachment or a real practice? When bringing the less well equipped up to the best practices, would the best practices be moved along to become better practices at the same time? Would the emphasis on the professional body as a whole, and on objectives for the whole body, stifle individual action? These dangers point out the need for any professional society to be progressive and to maintain a high degree of activity and participation by the many rather than the few. It seems clear to me that a professional society has the option to be or not to be a widely useful tool for executive development of its members.

PRACTICAL ASSISTANCE IN EXECUTIVE DEVELOPMENT. I want to emphasize here that executive development is not something to be done by or for a selected group of men. Rather it is something to be held out to all men who seek it or can be stimulated to seek it. Fortunately, the membership requirements for professional societies are generally not too restrictive so that the professional society as a tool for executive development is available to all who will use it.

According to the story, the Insurance Division of the American Management Association began at a group dinner held to discuss the problems of insurance buying. One of the group said later, " At that dinner table we found that no one could open his mouth without saying something that nobody else at the table knew and all considered of great importance. We decided we had something." This seems to be typical of what happens when people are brought together to discuss a subject which is a source of problems for all. This face-to-face give and take in small meetings is one of the basic processes by which people develop.

So SAM, and professional societies generally, *are* sources to which the executive can turn for practical assistance in executive development.

Now, for a contemporary point of view some of the needs of executives for help have been expressed in the last annual report of AMA in the following words:

"As we enter what will probably become as great a competitive economy as our nation has ever experienced, industrial and business managements in large and rapidly increasing numbers are seeking help, training and education to enable them to improve their capabilities and performance for the struggle ahead.

"Success in management endeavor today hinges upon the necessity for keeping pace with and directly contributing to progress. Thus, the individual in management is fast coming to realize that he needs more and more preparation and education, as a continuing process, to equip himself for the task."

It is true that future executives beginning careers with manufacturing companies generally spend their early years engaged in specialized work, such as engineering, manufacturing, sales, accounting, or personnel work. As they develop in their special line of work and demonstrate administrative ability, they may advance into general management with responsibility for all lines of work. In the early, formative years they need all the broadening experience they can get. One way they can meet this need is through contacts made and work done in a professional society.

Without such contacts, development of the executive is limited by ingrowth. He doesn't know how to do anything except in the way he's been brought-up. He may read treatises and listen to speeches on the principles of management, but they are no substitute for talking with people who have put the principles into practice.

Two or more persons, from different environments, transferring ideas with one another, create a cross-fertilization of thought that strengthens each person more than can be the case if all come from the same environment. It is hybridization that results in growth and development of ability.

This result has been noted by the European teams who have been in this country studying our productivity and management methods. They have been amazed to find the extent to which Americans get together to exchange their experiences with one another. They are astonished to see a company telling its competitors and others how they forecast, organize, and control operations. They immediately see the great benefits that come from keeping our minds awake and growing and how, when we blueprint another's practice, we add improvements and then come back to show what we've done, and to let another fellow take his turn at making it better still. The Europeans find this exchange going on in the meetings and publications of the professional societies.

In these meetings you get sharp questions, your thoughts are put to rugged test, and your thinking gets straightened out by pitting your ideas against the thinking of other people.

Some companies deliberately encourage their promising men in their formative years to get acquainted with problems and practices in lines of work outside their specialty. This may require participation in the programs of more than one of the societies. In these cases, the com-

panies look for the best opportunities not so much to join listening audiences as for person-to-person contacts with experienced, practical people. Their men are encouraged to participate both as teachers and learners as it is realized that the game can be played for continuing profit in no other way.

Not long ago, the manager of a certain company attended a session of one of the societies hoping to get some new ideas on organization and control which were the topics under consideration. Six weeks later he was telling everybody in a glowing spirit how profits would be $73,000 more by the year's end out of an idea he picked up while there. The idea was unrelated to the session's topic so it seems he wandered away from the session's subject long enough to figure out with another fellow how to make the extra money.

Another time, an executive came back from a similar session stimulated to make organization changes which he claims were responsible for improvement in profits of three percent on the year's sales of close to 50,000,000 dollars. Profits had been good previously, and control methods had not shown any need for action except to maintain the going performance.

PERSONAL PARTICIPATION. The executive looking to a professional society for help might look for answers to questions such as these: "What immediate opportunities are offered me to learn by participation? Is there opportunity for me to contribute my experiences and ideas in give-and-take discussions? Can I participate here and there, from time to time, to gain special know-how? Can I participate extensively to gain breadth and depth of view? Can I take responsibility and gain a sense of accomplishment in contributing to the advancement of my profession; will I gain experience in getting work done through other people voluntarily and cooperatively?"

I have run into men who say that generally speaking the best men in their companies do not participate actively in society affairs or civic affairs. I believe this observation can be proved false in almost every instance, since it has proven wholly false in several instances where I looked into it. In one typical case, all officers of a Company had held important posts in society and civic affairs although only one of them was currently holding such a job. Furthermore, the junior executives were holding an impressive array of jobs in community and professional service. Several men had been national society presidents and in each case they had been distinguished specialists rather than business men. The inference I get from men saying the best men do not participate when actually distinguished specialists have been presidents is that distinguished specialists are not the best men. I can only feel pity for any company that entertains such ideas.

Some men give time, thought, and effort to professional societies not for self-benefit alone, but for unselfish service to their professions as well. Whatever the motive, the personal gains are inescapable. Time is a possession, or resource, belonging to all individuals. It can be used if one wishes, to work exclusively for immediate financial reward. However, for most people, professional people in particular, there are higher motives, and service to others is a necessary part of their way of life. We have seen that in the early days of SAM men got together and discovered they had something useful for themselves. They were inspired to establish a Society to make it available on a broad base to others, knowing full well that this was the way to increase the well-being of all the people.

Recently, the management of a company in a community where there was a local chapter of a national management society made an investigation to see what was available to supplement their internal tools for executive development. They wanted to get their men to exchange ideas with men on the outside. They were interested in discussing problems and practices in general management. They wanted a local mechanism for this, as there were other companies in the area whom they believed had similar needs.

The company found that society sessions generally were devoted to special topics. The speaker would be a specialist describing an isolated special technique. No attention was given to problems of general management. It was the company's belief that some sessions with expert leadership should be devoted to studying the plans, organization, and controls of actual companies. This, they thought, would lead participants to discussion of their own problems. In response to this thinking, a series of management clinics have been planned and working executives in the area are now getting together. What's happening in this case is the same as happened when Mr. Kent and his associates got together in 1911 to plant the roots of SAM.

Actually, when these working executives get together their discussions focus on people to a considerable extent. For one thing, they are talking about how to develop men for greater responsibility by getting them to extend themselves in their present jobs. They have been looking at the differences that distinguish one person from any other. They have found, for example, that the Golden Rule is not a simple rule, at least, not in its application. For you have to treat others as you want them to treat you, *if* you were like them and in their position. Figuring out what another person is like and how things look to him is not easy and never 100 percent possible. The executives say that in the work they are doing together they find a unique opportunity to exercise administrative skills and abilities. Company people find that outside people are mentally tough and independent characters, and to get them to work cooperatively on research programs, meeting programs, committees, and the like, is a test of administrative skills.

Organization of the management profession is similar in some respects to organization of the engineering profession and this results in more than one society being a separate and different tool. In engineering, there are independent technical societies and a national society of lawfully licensed engineers, but no single society, or group of associated societies is large enough to really represent the whole profession. In management, SAM and other societies are devoted to advancing the art and science of professional management while the chambers of commerce, NAM, and other societies are generally recognized as dealing with legal and social aspects of the profession.

In one kind of society, meetings are devoted to the work of management. In the other kind, attention is devoted to the social, political environment in which the work must be done. Responsibility to the public and leadership in setting social objectives are important parts of the job of professional management in our time. I might mention my belief that any learned profession needs a central society supported by all members of the profession and by all of the specialized technical societies. Such a central society should handle those matters which give the profession reality, not reserved specifically to the technical societies, e.g., the profession's public responsibility, its ethics, its legal relationships, its general system of education, and its general standards.

FIFTH ANNUAL INDUSTRIAL ENGINEERING INSTITUTE

THE University of California is holding its annual Industrial Engineering Institute at Berkeley on January 30 and 31, 1953, and at Los Angeles on February 2 and 3, 1953.

The Institute is under the general chairmanship of D. G. Malcolm, Vice President of the Bacon Vulcanizer Mfg. Co. Dr. Ralph M. Barnes of the University of California at Los Angeles will chairman the meetings in that city while Professor B. G. McCauley of the University will chairman the Berkeley meetings.

THE AGENDA. Among the outstanding speakers are Stewart M. Lowry, Partner, Booz, Allen & Hamilton; G. H. Gustat, Sup't of Industrial Engineering, Eastman Kodak Company; C. L. Thorpe, General Personnel and Public Relations Manager, Guy F. Atkinson Co.; and Professor Frank Shallenberger, of Stanford University.

Included among the topics are: Organization of the Industrial Engineering Function, Industrial Engineering in Small and Medium Sized Businesses, Human Problems in Industrial Engineering, Production Engineering vs. Engineering Design, Job Evaluation, Quality Control, and Automation.

The Institute is presented in cooperation with SAM, ASME and AIIE.

Long-Term Planning

By Mark W. Cresap, Jr.

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THE term "planning," in the sense contemplated in the title of this talk, means the formulation of plans for the future development and improvement of a business. It means the orderly process of analyzing the fundamental and pertinent facts, and the assembly and documentation of materials to crystallize in considerable detail the intentions, principles, and contemplated programs on which the future development of the business is to be based.

I am well aware of the fact that the terms "planning" and "planner," particularly the latter, stir up strong and unfavorable emotional reactions because of their association with the more bureaucratic aspects of modern government and with the techniques of totalitarian states. Certainly the Number One dictator currently strutting the world stage has employed planning as a keystone of his "administration," if this term can be used to connote the type of operation in question. Dictatorships and bureaucrats have no copyright on the word "plan" and its derivatives. Any similarity between their kind of planning and the kind I discuss with you is purely coincidental. The two can be easily distinguished by their respective purposes. The dictator-bureaucrat species is aimed at a central masterminding of rigid blueprints for the regimentation of men, money, and materials towards the relentless achievement of arbitrary and ruthless goals. The variety of planning employed by free enterprise differs from such a process as much as the democratic and totalitarian forms of government differ from each other. Business planning, to be effective, cannot be arbitrary or rigid and does not require regimentation to achieve its purpose.

Specifically, the purposes of business planning, as I see it, are five: first, to raise the sights of an organization; second, to provide an organization with the stimulating effect of concrete goals; third, to assure a teamwork effort toward uniform objectives; fourth, to provide the necessary preparatory lead time for the achievement of objectives; and, fifth, to furnish a basis for annual budgeting in a more purposeful manner than by reference to historical performance or static standards.

ELEMENTS OF THE PLANNING PROCESS. Sound long-term business planning consists of the establishment of performance objectives, the formulation of programs for their achievement, and the determination of policies governing the future development of the business.

The future objectives of a business should depict the character, composition, and mix of the business to be achieved. This entails answers to some basic questions, including the following: Is there any desired change in the basic type, character or purpose of the business; in the products or services offered; in the price niche to be filled; in market coverage; in the relative emphasis to be accorded components lines or services?

Objectives should establish the goals of performance to be accomplished in the future—they must be reasonably attainable. These should cover the share of market to be obtained, the dollar sales volume, the profit margins, and the return on investment. They should be set up for the enterprise as a whole and for each of its component departments and product lines. These long-term objectives provide the framework for annual budgets, which should represent the extent of the planned five-year accomplishment to be achieved in the year budgeted.

The second element in long-term plans is policy—covering all important factors on which the development of the business will be hinged. These policies might be termed the "by-laws" of a long-term plan. Examples of policy subjects that might be covered in a long-term plan are those relating to quality, pricing, distribution, sales promotion, buying versus producing materials or components, labor relations, public relations, finances.

The third essential element in a long-term plan (and one which if omitted reduces the plan merely to a set of intentions) is a comprehensive and thorough program to attain the established objectives and to effectuate the established policies. Such a program, of course, would vary according to the nature of the plan, but the following are illustrative of the most important developments to be programmed in support of the entire plan:

I. Organization structure.
II. Personnel — future requirements to meet new and vacated positions, the selection or replacements, their development, and their motivation.
III. Physical facilities.
IV. Research and development programs.
V. Material supply.
VI. Distributor and dealer organization.
VII. Financial requirements and how to meet them.

CONTROLS. Along with the establishment of plans, there must be provision for the systematic review of progress and for the resulting formulation of corrective measures in considerable detail, in order to assure that controllable elements affecting the achievement of plans and programs are not neglected and are not allowed to defeat the accomplishment of the objectives. While the manner in which progress towards objectives is monitored will vary extensively among companies, according to the nature of their business, the structure of their planning and the composition of their objectives, as a general principle, a review of progress at least annually, and preferably semi-annually, is advisable. These reviews will indicate the need for more aggressive action or for the modification of the plans themselves. They may, in fact, reveal the need for revision of the basic objectives originally established. More often, resulting action will be directed towards the improvement of the program in support of the objectives, including principally the following:

I. Review of lines to assure that they are competitive as to design, styling, price, and coverage.

II. Revision of manufacturing arrangements in terms of facilities, equipment, layout, or processes to achieve better quality and lower cost.

III. Distributor and dealer organizations, sales organization, promotion and advertising.

TECHNIQUES OF LONG-TERM PLANNING. I have talked primarily about the purposes and nature of long-term planning, and now I would like to touch briefly on certain significant matters of technique. I am not referring in this connection to the mechanics of planning because it does not harmonize with the purpose of this gathering. I include this aspect of the subject because some planning, in spite of the best underlying intentions, is wrecked or badly damaged by techniques which have not been thoughtfully and carefully crystallized.

The length of future period for which long-term plans should be made is a technical factor of the first magnitude. It seems to me that, as a general rule, future planning is most soundly approached on the basis of a five-year projection. Less than five years provides too short a period of time for accomplishing the underlying groundwork to achieve the planned objectives. A longer period may result in a serious case of eye strain for those who are charged with contemplating the crystal ball.

Plans without a high degree of flexibility run a great risk of subsequent abandonment. It is a practical impossibility to design even a five-year pattern, and the resolve to stick by it through hell and high water (both of which occurrences will probably be experienced in the course of the period.) I said you can't; of course, you can, but you may look a little foolish trying to do so. How would you like to be operating today, in your business, on a plan that was set up in January, 1947, without revision in the meantime? Figuratively long-term plans should be written in pencil rather than in ink. Specifically, plans should be regularly revised every year, with each revision embracing the five subsequent years, and reflecting new circumstances and conditions, thus providing a rolling five-year plan

based on up-to-date information and estimates.

Another technical question is whether to project goals and other elements of plans on a trend or a cyclical basis. I favor the former—that is, projections following normal trends without regard to cyclical fluctuations— for two basic reasons. In the first place, the prognostication of yearly economic fluctuations is a function of the most hazardous species. Trend forecasting is difficult, but I am convinced that trend projections on the whole have been vastly more accurate than guesses as to cyclical swings. FORTUNE magazine recently displayed a mortality table of the cyclical predictions of professional economists, and it revealed a high correlation between forecast and prediction—but in reverse. Yet, if you examine the more soundly based long-term forecasts in recent years of national product, electrical energy and steel production, for example, the correlation, while by no means perfect, is not of the reciprocal type.

My second reason for favoring the trend basis of planning is that the long-term development of a business should be geared to long-term movements, and should not be governed by guesses as to short-term swings. Employment of the latter procedure involves a company in the risk of being strategically whipsawed and of losing its position in growing markets. The "trend" approach to planning accepts the fact that there will be periods (of a reasonably short duration, it is hoped) when some plant capacity will be temporarily idle. Such an approach recognizes that, if the alternative is to delay action in the face of reliable indicators of future market growth—to delay for "more favorable circumstances" — the sound course of action is clear-cut. It is speculative—it is riskier—to attempt to time long-term strategical development by cyclical guesswork as to the "right moment" than to move ahead surefootedly when the distant signal is clearly "green," at the same time assessing the extent of the risks involved and reflecting this assessment in the long-term plan by appropriate provisions for periods of retrenchment. Reasonable periods of idle plant capacity are far less costly than the loss of basic competitive and market status, the recapture of which may prove crippling.

A great deal of attention has been devoted to the question of what are the most pertinent bases for expressing objectives and measuring performance as regards the profitability of a company's operation. While the choice of such bases is again dependent, to a large extent, upon the nature of an individual business, the most accepted and appropriate performance ratios for most manufacturing companies appear to be these:

I. Net income to net sales billed.
II. Return on gross fixed assets.
III. Return on current assets.
IV. Return on total assets, representing the sum of gross fixed assets and current assets.

Let me offer some explanation briefly with respect to these ratios, since the manner of computing each is highly important, particularly if comparisons are to be made of operations within a company, and between a company and others in the same line of business.

In computing these ratios, net income after taxes is employed instead of a before tax figure, for two reasons: first, the only effective result of a company's operations is the net amount remaining for reinvestment and dividends; second, it is past experience and the future expectation that, on a long-term basis, the effect of changing tax rates on net income margins is not permanent. This would not apply to short-term projections or annual budgets, in which cases sudden changes in tax rates have a direct and substantial effect on profits, as in 1951 and 1952. A 15-year comparison of tax rate trends and after-tax corporation income ratios will quickly and convincingly confirm the fact that taxes do not necessarily effect net income margins over the long pull.

The ratio of net income to plant investment is based on the gross fixed assets figure, instead of the net amount remaining after depreciation, as a means of injecting a rough adjustment factor to provide some equalization of facility values of various company divisions, or of comparable companies,—between those with old plants built at relatively low cost and those with new plants built at high cost. By dealing with all plant values at their gross book value, the distortion of respective ratios of return on plant investment is minimized, and it is felt that the relative inefficiency of the older plants is compensated adequately by their relatively lower gross value, without deduction of accrued depreciation. The use of gross plant figures does not result in truly reliable comparisons, but unless a realistic basis for evalution of plants on an appraisal basis is feasible, it is the most practical approach available.

The key performance standard and measure is the ratio of return on total assets. Some argue that return on net worth is preferable. The "total asset" basis is preferred because it measures management in terms of profits returned on total capital employed, without injecting consideration as to the *sources* of capital. A "net worth" basis of measuring profit return is pertinent to a financial evaluation, but the "total asset" basis is the best for appraising management's basic responsibility for earnings. I was interested to note that, in a recent survey of practices in this regard among a representative group of large companies, the measurement of return against total assets, with the fixed assets included at gross value, was the predominant approach.

The four profit performance ratios previously mentioned serve not only to establish objectives and to measure performance, but also provide standards for evaluating the desirability and value of a new or existing product line.

Application of these standards must reflect the fact that, because of inherent characteristics, product lines will vary in their profitability ratios—as between (1) "margin" of profit and (2) return on investment. Some lines with high margins produce a low return on investment, because "turnover" is low—that is, the volume of sales in relation to capital employed. Other lines with moderate margins are able to produce a good return on investment because of high turnover. Often heavy special-purpose machinery is in the first classification, and standardized mass production items (automobiles, refrigerators) in the second. Nevertheless, the more significant measure of profitability is return on investment, rather than percent profit to sales, since it evaluates a proposition in terms of the earnings generated by stockholders' investment, which in turn influences the rate of dividends and the market price of the company's shares.

The key criterion as to a product line, therefore, should usually be the return which it produces on its investment, expressed in terms of the ratio of profit on total assets. The component ratios of return on fixed assets and on current assets, while helpful in analysis, are only useful in an auxiliary manner. Some situations involve high fixed investments and low current assets, while others are of the reverse type. The real measure is the return on total assets. From the standpoint of risk, of course, situations requiring relatively greater current investment than fixed investment are more attractive. Funds permanently required for working capital represent the employment of capital as truly as investment in plant and equipment; and a true gauge of management's ability to return profits on investment must reflect all capital employed—fixed and current.

The use of existing price levels as a basis for projections is advocated because of the difficulty of forecasting movements in the price level and because of the complications and dangers inherent in attempting to make all of the various adjustments required in the relationships between price realization and costs incident to fluctuations in the value of the dollar. The use of current price levels provides a stable basis for making projections. The goals can be understood and interpreted more readily by hinging them to current price levels, than otherwise. Furthermore, with regular and frequent revisions of objectives, projections can be adjusted to new price levels when these revisions are made. Then, too, if major emphasis is placed on performance objectives in terms of ratios (% market, % margin to sales, % return on investment), the problem of varying price levels is not as acute as would be the case if the dollar objectives were stressed.

INITIATIVE FOR PLANNING. The direction of the planning process should be upward,

not downward. Planning cannot soundly be centralized. Specific plans should be developed by those responsible for carrying them out within the framework of overall company objectives, policies, and capabilities. In the description of the planning program to our organization, for instance, we have announced the following:

"The Westinghouse Planning Program is conducted under the ultimate control of the headquarters Management Committee, and with all basic objectives, policies, programs and decisions subject to its concurrence and the approval of the President. Division managements, assisted by their Planning Boards, develop divisional objectives and plans. The headquarters Planning Committee formulates overall objectives, programs and policies with respect to the Company's development and assures company-wide coordination with them.

"The principal purpose in providing for Planning Boards for each division is to implement a fundamental company management policy to further extend the delegation of business decisions to the division level. This policy has been generated by the growing complexity and size of the company, and by recognition of the fact that the flexibility, agility and profitability of the corporation will benefit from the maximum practicable degree of decentralization of management policy-making, planning and action.

"One of the primary intentions influencing the design of the Westinghouse Planning Program has been to create a framework of basic company objectives and policies, within which division managements can plan and work, with broader independence of action than is otherwise possible. Without such a framework, greater centralized control of division activities is necessitated."

DECENTRALIZATION OF RESPONSIBILITY. I would like to amplify the thought expressed in the final sentences of the foregoing quotation and to stress the relationship between adequate long-term planning and certain organizational characteristics which are now receiving a widespread and intensive emphasis—delegation and decentralization. These cannot be soundly implemented without the proper framework of plans which serve as the guiding instrument to assist all concerned in the direction of their own efforts. A sound and thorough program is an essential preparation to delegation and decentralization. Attempting to achieve these organizational ends without the availability of detailed and well-understood plans will inevitably result in confusion, conflicting efforts and working at cross purposes internally.

SUMMARY. Many contend that the difficulty of predicting the future obviates all opportunity for laying long-term plans for the future. A recent study published by the National Industrial Conference Board reflects this prevalent point of view among companies. It is true that we live in uncertain times—the most uncertain that any generation of businessmen have ever experienced—but to ignore planning for this reason is, in effect, to decide to quit the race. Not to plan is not to look ahead, and not to look ahead is retirement. The uncertainity of tomorrow is no license to management to forget about tomorrow, any more than that rising labor rates justify the ignoring of manufacturing costs. One of the principal functions of management is to plan ahead. Simply because the clouded horizon makes this a difficult process is no excuse for complete default. The answer lies in flexibility of the same type that military plans must possess, so that incorrect assumptions and unpredicted developments do not destroy the eventual execution of a planned operation. Flexibility in planning is achieved by frequent revision of plans, and by a knowledge of what alternative courses of action must be taken to meet the requirements of temporary interim developments, without abandoning the basic long-term program; in other words, employment of quick tactical footwork within the structure of the broader strategical plan.

INTERNATIONAL MANAGEMENT

The International Scene—A Challenge To Management

By A. M. Lederer
President, National Management Council

I FEEL very privileged to discuss a subject in which I have more than academic interest. Not unlike the habitual golf or poker player, never able to resist the temptation to partake in his pet activity, I accepted your gracious invitation with great enthusiasm. Deep reflection upon the topic made me realize that perhaps almost 25 years of laboring in the international vineyard is not enough to talk about it publicly or know what its challenge to anyone may be.

The thought also occurred to me that perhaps the more one becomes acquainted with the various scenes on the international stage the less one knows about the ultimate portent. Hence, to establish once more my mental equilibrium after the rashness of my acceptance, I decided not to take for granted what the title of my speech may suggest or infer, that is to say, first, why should Management be interested or take part in the international scenes, and second, what, if anything, is their challenge to Management—particularly when organized sectional-economic groups are apparently most active in that field.

MEANING OF MANAGEMENT. In order to be precise in my meaning and to cover to some extent this formidable topic, I must define certain recurring words. When I speak of Management, I mean Management in its larger sense, from the management of oneself to that of business enterprises, farms, organizations, governmental entities, educational and other institutions, everywhere in the world, except in those areas beyond the Iron Curtain, upon which one can at best only speculate. Naturally, when the term "American Management" is used, it pertains to Management as defined above in the United States of America, and the term "American business" or labor or government management is self-explanatory.

When I was a young boy I was occasionally exposed to the hard mental scrutiny of an old clerical friend of my uncle, who with his persistent questions tried to stimulate my mind, not appreciated, I can assure you, at that time. Sometimes his probing drove me to the helpless exasperation only little boys can feel. In retrospection, however, a great many unanswered questions thus posed to me were, strangely enough, made vivid in later years.

I can remember when I burst into the house full of magnificent blueness of the sky of that day. In giving vent to my boyish ecstasies I explained to my uncle's friend that the sky I had just seen was so wonderfully deep blue that everyone had to go out and look. Our family friend smiled, as I recall, and asked me quietly and rather gently, "Son, will you explain to me this deep blueness of the sky you have just seen?" I tried and, of course, I failed. Recalling that incident in later years, I recognized it as the first lesson in an explanation of what Dr. Northrup calls "the aesthetic component in the nature of man." It is that part in the nature of things which is immediately determinable, immediately apprehended when immediately experienced. It is incapable of any verbal description, mathematical calculation or logical deduction.

It is, nevertheless, very real—a part of our life.

Now, I believe that Management has within itself, by the very nature of its calling, an aesthetic component which is irreducible and to be fully understood and to be known must also be immediately experienced. That aesthetic component of Management is, I believe, freedom for the individual and for a group to experiment, freedom to analyze, freedom to grow, freedom to venture. It is the vital ingredient of Management as a philosophy.

Now, I believe that Management everywhere, in greater or lesser degree, possesses that aesthetic component and if that is so, then Management everywhere is by that very component already part of the international scene. It follows then that all functions, all parts of Management, business Management, institutional and farm Management, have a common component upon which they can and ought to agree. They can venture forth from that realization.

DIFFERENCES IN SOCIAL STRUCTURE. I recognize, however, that some of the methods of Management to ensure that freedom are at times irreconcilable with that very component. The apparent difficulty of reconciliation lies in the differences of social structures in different parts of the world. In order to comprehend the international scene and the one universal component within Management everywhere, it is necessary to realize the present existence of those differences in social structure.

Knowing that generalizations are usually faulty when applied to one or the other particular, I would say that European and some Latin American countries are on the decline of a hierarchical concept of society which in the past has attempted to compress Management in what seemed to us a straight jacket of caste or class.

It had denied Management the development, or rather the realization of the aesthetic component. From hence stems our occasional impatience with them and their impatience with us.

The Orient, on the other hand, had developed a social and cultural structure built primarily on the emphasis of the transitory in all activities and events of human life, resulting in what seemed to us inertia and fatalism. That, too, is changing under the impact of association with western ideas. By the very nature of their culture, however, we have not far to seek to find there also the budding sprouts of this common component of Management.

Through the existence of this common component Management has a choice of either giving direction to the international scene to its fullest development or to deny the existence of this aesthetic component and shrivel to a mathematical formula.

RESPONSIBILITY OF AMERICAN MANAGEMENT. A great deal of the responsibility for giving direction to that international scene rests with American Management. It rests with American Management because it was, if not the creator, at least the chief apostle of Management as a concept of life. Hence, it must inject and project itself on that international scene because it cannot permit that Management in the world should be perverted to a mean and soulless end. American Management must give nourishment to Management in the free world from its self-replenishing well of experience—from venturing, because its very existence depends on its own expansion and on an expanding Management, as a way of life, in other countries.

American Management would lose its freedom to manage, to grow, to venture in a world which would deny the existence of the aesthetic component in Management, in a world which seeks hard for its narcosis, rationalizing its arbitrary ways of life into a philosophy, but hardly willing to equate its needs with all the other needs on earth. Failure to venture further on the international scene and take active part in it would eventually make it a slave of the rationalists of immediacy and the purveyors of Marxist materialism.

MANAGEMENT AS A BALANCING FORCE. The second question which I asked myself, "Why American Management should take leadership on the international scene when American labor, business, government, or other organizations, presumably possessors of the same aesthetic component are already actively engaged in international affairs?" The answer to this question seems to me rather simple. Each business, labor or other American organization, which purports to represent a section of American economy or political force, appeals to the same sectional interests in other lands. They purvey their own sectional or national wares to their own needs for their own purposes, however high minded.

It has been said by others that all sections of a society—labor, owners, government and consumers—claim the satisfaction of their spiritual and material needs from Management. Management is therefore the fifth and balancing force of a society, and that force properly used and not contradictory to its aesthetic component can lift the squabble of the sectional forces into a chorus of achievement.

All too long American Management has been absent from the scene in international affairs. Business, labor and other organizations for years past have passed resolutions on various aspects of human life. In most instances, they tended to operate in a vacuum because that fifth force, American Management, was absent from the scene. It should be present, not only to pass judgment on the resolutions thus proposed, but what is of equal importance, to provide by practical methods the implementation necessary for their successful execution.

MANAGEMENT ORGANIZATIONS AND GOVERNMENT. This applies with equal force to matters pertaining to international affairs which our own government instigates in our national interest.

Why would it not be proper to have the various functional sections of American Management be represented as active participants on the committees of the executive branch of our government considering international programs and affairs?

Why would it not be beneficial to have our great Management societies bring their wisdom and experience to bear on questions of national importance through penetrating experienced studies and recommendations?

Why should not our Management organizations play an important advisory part in the organization of our Foreign Service, a vital functional arm of our nation? Why should they not concern themselves with aspects of international trade, convertibility of exchange or other economic problems which are in the end problems of Management?

I think they should. They should bring their venturing spirit and vigor to bear on these problems. Their very venturing spirit would preclude them from resubstantiating a dubious normality. To that end, also, they could make a valuable contribution to Management in the world.

CROSS FERTILIZATION. Further, there is coming to their height of maturity in Europe, in Latin America and in Asia, a young generation of managers impatient and disillusioned, rightly or wrongly, with the failure of their leaders to recognize the futility of trying to build an economic house with blunted and outmoded tools on the crumbled ruins of a dead past. In many instances, they have fleetingly glimpsed and experienced by exposure to it the aesthetic component in Management. They are eager to expand on it and in their swift, impetuous eagerness they waver from contradiction to affirmation in their methods. It is to them that American Management should address itself, at the root level.

American Management can combine with them through privately financed perpetual seminars, or other means, to find the true expression and aims of Management. Again it was American Management which kindled that spirit in other countries and cannot afford, if true to its belief, to let it be snuffed out. More so, American Management can enrich by cross-fertilization its reservoir of knowledge and experience by learning from the trials and tribulations of groping Management movement in other countries.

NATIONAL MANAGEMENT COUNCIL. A small beginning has been made because many American Management societies, and yours is one of them, took that first step in a venturing spirit more than a score of years ago and created the National Management Council of the United States of America as their international representative. That Council, during the last year, has labored to produce a statement of policy, which now has reached its final stage. The preamble to that poli-

cy statement reads:

"Management can make a major contribution toward the protection of the free world against the forces of tyranny, and toward an ever-better standard of living for all peoples—the two great bulwarks of freedom in the years that lie ahead. For it is Management, by its planning, organizing, controlling and coordinating of both human and material resources, which plays a leading role in achieving production and distribution of the goods and services essential to well-being.

"Management's dedication to its role in a free world and its great potential to continue to improve itself in a free society is attested by: the great advances made by so many managements in the exercise of their own responsibilities; the growth of a Management Movement dedicated to bringing together an organized body of knowledge about the principles of Management, and to the widest dissemination of that knowledge; the procedure followed in many of the free countries of the world by groups of businessmen, Management consultants, educators, government officials and others who, through their societies and associations, work together to develop an understanding and acceptance of the systematic and professional approach to all Management attitudes and practices and to their measurement and evaluation for continuing improvement."

In a free world, where the growth of population presses fiercely and irresistibly upon the imagination and resources of Man, not only to survive but to obtain full spiritual and material growth, no other force of society has, I believe, the intellectual and spiritual capacity to answer that need as the fifth force, Management has.

It is in the satisfaction of that need that I see the challenge to Management, and particularly to American Management. The gauntlet has been thrown down by human misery, despair and spiritual, material and political insecurity. You may decline that challenge or you may accept it. The decision is yours.

MEETINGS OF SAM NATIONAL OFFICERS

—1953—

Feb. 7 .....Executive Committee
April 18.....Board of Directors
May 16 .....Executive Committee
June 27 .....Board of Directors

GOVERNMENT

Men, Management and Mobilization

By Henry H. Fowler

Director, Office of Defense Mobilization

SOMEONE has said—half seriously and half in jest—that the most significant contribution of the defense mobilization program has been the creation of a "stockpile" of trained executives drawn from the ranks of industry and labor to undertake jointly with career civil servants the management of any war mobilization that the future might require.

Did you know that approximately 650 specialists from industry have been certified as "persons of outstanding experience and ability" qualified to serve "without compensation" in the Defense Production Administration and the National Production Authority in the relatively brief span of their existence? Did you know that there are approximately 300 of these men, borrowed from the ranks of business management and so qualified for their skills and knowledge, who have served for at least six months in one of these agencies and received a Certificate of Service which reads as follows:

"This certificate is awarded to John Doe in appreciation of services rendered to the United States Government in time of national emergency and in official recognition of the outstanding experience and ability for which you were selected to serve as an employee without compensation through the cooperation of Corporation X."

Did you know that today over 300 are serving regularly and, upon completion of their terms, will receive such a certificate?

Before this great organization representing men of management in our country, I would like to pay tribute to the willingness of the fine executives and specialists who come to Washington and work long, crowded days on full-time assignments in the defense mobilization program.

In addition to these, I wish to pay equal tribute to those from the business and trade union organizations, the universities and other segments of our body politic who serve temporarily as full time civil servants or as consultants, often for long periods of time, on particular aspects of defense mobilization.

The total of 1,015 who have served as Without Compensation (WOC) employees or When Actually Employed (WAE) employees in the DPA and the NPA are only one illustration, of course, in one set of agencies of the special skills and experience recruited by the United States Government for service in this struggle for national security. This practice, recognized and authorized wisely by Congress in Section 710 of the Defense Production Act, is utilized not only by the departments and agencies responsible for the administration of that law, but also by the Defense Department, the Mutual Security Agency, the State Department, and other agencies in related fields.

Also, I want to express the Nation's gratitude to the over 7,000 men who serve as members of some 550 industry advisory committees organized by the National Production Authority, and to their counterparts serving on similar committees for the Office of Price Stabilization and the Department of Defense.

The members of these committees come to Washington on the call of the Government presiding officer to exchange views with the responsible Government officials and each other on matters of importance to the defense mobilization program and the industry. Some of the committees are more active than others; some meet quarterly some less frequently—but taken together they serve as an indispensable backlog of advice, information and cooperative contact between Government and industry on their joint concern—national security.

There are similar informal meetings arranged by the labor offices between representatives of the labor organizations and those Government officials who are actively concerned with particular areas of policy or operations where leaders of labor have experience and knowledge to contribute.

One of the outstandingly successful experiences in the current mobilization program has been the operation of the National Labor Management Committee in the Office of Defense Mobilization which has considered fully and thoughtfully, helped formulate and approve in advance, all of the defense manpower policy regulations or orders issued by the ODM.

Finally, I want to mention particularly the faithful and diligent work of the President's National Advisory Board on Mobilization Policy which includes four persons from industry, labor and agriculture, each, and four public members, who meet two days each month with the President and the Director of the Office of Defense Mobilization to consider a wide range of policy questions on which their broad experience and mature judgment, as well as institutional contacts, are valuable.

PARTICIPATION IN GOVERNMENT. With all the force that I can command I want to say to you, to your organization, and —through you—to the nation, that whenever this tradition, now solidly established, is weakened—whenever either business,

labor, universities, or any other sector of the United States begin to hold back in furnishing their best talents—whenever, most of all, American men and women directly concerned who are best suited to these posts refuse the burden and responsibility, we have lost the greatest strength of a free society in the period of its most critical danger.

I want to be serious about this deadly serious matter. The mobilization program up to now has received splendid cooperation in the provision of talented specialists and advice from business, labor, technical societies, professional groups, universities and the like. Whatever measure of success the mobilization program has achieved, and naturally I would think it considerable, is due in large part to the work of individuals who have given of their time, talents and experience to the Government in a national emergency.

I am anxious that this tradition grow and develop and become stronger. Also, I am fearful that in the period ahead the sense of duty and willingness to sacrifice that is inevitably involved will be dulled by the passage of time and the seeming passage of danger which, in reality, is only our getting used to living with it constantly.

In a great mobilization program in our kind of society, such as the one in which we are engaged, where the Nation undertakes a rapid build-up and a continued maintenance of military and industrial strength, Government is no more than a catalytic agent, fusing the joint efforts of Government, industry, labor, agriculture—and the American people. The tens of thousands of businesses and the millions of workers of every type are the real backbone of defense mobilization. Their cooperative endeavor cannot be maintained on an effective basis without participation by all of the elements in this the most important job that faces us today.

Participation and understanding are best realized when the men and women from these sectors of society outside Government work full time or part time on the Government side of the table—or, as in the case with the Advisory Committees, sit with the Government officials, sharing their concern and responsibility and advising on how it may best be discharged.

These processes are the very essence of the mobilization of a democratic society; they are dependent upon the voluntary willingness of the Government to administer its program in such a fashion as to permit and invite that kind of citizen participation; it is dependent, similarly, upon the voluntary willingness of the citizen to serve, when provided the opportunity to participate and render the public service that is all the more to be treasured because it is voluntarily given.

A LONG TERM PROBLEM. It is the organization and stimulation of this voluntary willingness to serve one's country in its struggle for national survival against the threat of Communistic aggression which should fill our thoughts. Our ability to mobilize as free men to work to preserve a free society is the acid test of our time.

Our enemies today have no such problem. Where the State is everything and everything belongs to the State, the most intelligent, the most advanced technical minds, the most skilled and experienced in various fields work for the State willy-nilly. Our great advantage is that they do not work as well under that kind of system. We must not fail to face the fact that the bodies, the brains, the spirits—however misguided and however tortured—are there working for our destruction and the elimination of our society and way of life.

We cannot oppose their concentrated energies and abilities if we are to join in the national refrain of "Let George do it."

You may ask why I am concerned for the future enlistment of trained men and women in the mobilization program when the practices and tradition previously described seemed to be working. This is why.

A long-term, sustained mobilization in the atmosphere of a cold war, hot only in a few relatively small corners thousands of miles away, is a new and difficult experience for our Nation. It is much more difficult than mobilization for an all-out shooting war. All-out war mobilizes all our energies, brings forth the spirit of sacrifice and the improvisation of solutions which is the magic of a free society.

Full mobilization for total war would see the fathers of American boys rushing and glad, as in World War II, to be officially on the same team as their sons going off to war.

However, partial mobilization on a long-term basis provides no clarion or compelling call. Our national energies and our concentration tend to rise and fall with the ebb and flow of international events. Although we all agree the danger does exist, there is no great unanimity except perhaps by those close to the problem with the sense of ultimate responsibility on the extent of the danger. The very nature of partial mobilization gives us license, and properly so, to question the methods by which we maintain our security.

Partial mobilization—necessarily defensive in character—is in many ways a frustrating experience for a people unaccustomed to defense. People who are action-minded and are used to expending great bursts of energy to get the job done find themselves the likely victims of apathy with a job that seemingly never gets done.

Because of these difficulties, this type of sustained long-term mobilization which events have forced upon the United States is the ultimate test of the leadership, intelligence and patience of our democracy.

For many people, it is impossible to sustain a feeling of danger over a long and indefinite period of time. They begin to let down after the very surging enthusiasm for building our strength has dissipated and the excitement of mobilization, which is an exciting word, reverts to the undramatic day-to-day contribution. Under these circumstances, people begin to think of their own personal interests rather than the seemingly remote connection between their individual contribution and national security.

This matter is now increasingly important to our mobilization program for several reasons. First, too many businesses during recent months have come to believe the mobilization program is over the hump, that the road ahead is all down hill, and that gravity and its initial momentum will keep the machinery going indefinitely. Those whose thinking falls into this category, have not been made fully aware of the nature of our mobilization program.

It is a program which must be with us for an indefinite period of time. It will not end in 1954, or 1955, or in any of the years following so long as our great civilization is threatened.

It would be foolhardy indeed to assume that because a great deal of administrative organization planning and policy-making has been completed and the program well under way, that industry, labor, the universities and technical societies can leave the job of continuing management to the personal resources, however good they may be, of the career civil service. Such a policy would limit unduly our call on human resources and experience needed for this type of effort.

Our defense and the industrial readiness to achieve quickly a full mobilization during these long and uncertain years ahead of us will continue to be, as it is today, the biggest and most important business in America. We must be able to continue to draw on the management and scientific brains of the nation not only through contacts, but, also, to help in public administration of what is basically a production and economic management job.

To those who might feel that once we have achieved our 143 airgroups, our 400-ship navy, our fully-equipped 21 divisions, the job is over; I would like to point out that the first-line life of a fighter plane is only about five or six years. Therefore, we must always have new designs worked out and facilities ready to produce the planes of tomorrow. We have no choice, for we must all know that our potential enemy will not relent in his own efforts to develop weapons and equipment superior to our own.

Our mobilization base which we are now working so hard to construct, no less than our military end items, must be rounded out, so that we can expand rapidly and efficiently to an all-out pace with a minimum of bottlenecks. This base—plant facilities, tools, materials and skilled manpower—must be maintained in up-to-date fashion. Certain aspects must be kept up-to-date with the new weapons that are required. Otherwise, the base would be limited to the mass production of weapons of a type inferior to that

which the technology of our enemy may permit in the early phases of any total challenge. The alternate to the maintenance of our mobilization base, is, in effect, its deterioration—and the jeopardy of our Nation's survival.

NEED FOR TEAMWORK. Who is it then, that must plan and administer this long range, sustained mobilization program? It must be an effective team of trained career civil servants conjoined to men proficient in the world of industrial management, labor and technology. However capable the career civil servant might be in administration—and he does possess a high degree of capability—he cannot do the job alone, because the job is one which requires the participation of specialists from dozens of individual industries, those with skill and knowledge of production, and use of many materials, facilities, and a day-to-day familiarity with the systems, personnel and working of any segments of our free enterprise system.

Although I have emphasized the role which has been played by industry and labor personnel brought into the government, I must impress upon you the indispensable role performed in the mobilization program by the firm core of career civil service personnel.

The National Production Authority was built upon the existing foundation of the Department of Commerce's Office of Industry and Commerce. Additional career personnel were "loaned" from other agencies, and with this "cadre" of permanent civil servants the job of setting up the agency was made incomparably easier than in the case of other agencies not so fortunate in having available such a strong nucleus of career personnel.

In addition to relieving newly-recruited administrative personnel of much of the burden of setting up a new agency, permanent civil service administrators act as a great stabilizing and protective influence. Many businessmen entering the Government for the first time have little conception of the giant, inertia-filled thing the Government really is. In the belief that things should be done immediately, they must sometimes be restrained from promptly riding off to meet a challenge, leaving long-established, necessary Governmental policies far behind.

What seems like so much useless red tape to those new in Government is really nothing more than a projection in a much larger organization of procedures with which all those working for large companies are familiar. In Government, the largest organization of all, these procedures provide for the reconciling of the many very different, and sometimes conflicting, public interests. Each unit with its different responsibility must have its opportunity to make known its viewpoint before a decision can be truly cast in the public interest. As an organization becomes larger in size, the necessity for assuring that all aspects of any given problem are recognized and given adequate consideration requires procedures which take on an appearance of being more complex. In reality the procedures are basic procedures applied to more complex situations.

After industry people have been in their jobs for awhile, they come more and more to respect the judgment of these career employees which might at first have seemed unduly cautious.

However, it is extremely doubtful if the career civil servant at any time in the foreseeable future will ever be able to conduct our mobilization program for achieving and maintaining ready strength without assistance from the management skills of industry.

INDUSTRIAL MANAGEMENT EXPERIENCE REQUIRED. We have always had to draw these skills into Government in times of national emergency where our security is threatened. This emergency may be of such duration and difficulty that we can no longer ignore the need for a positive program for maintaining these skills in the Government or bringing in new types as new situations in our mobilization program offer new challenges.

One of my first responsibilities when I came from private life into the management phase of one part of the defense mobilization program in September, 1951, as Deputy Administrator of the National Production Authority, was to attempt a more regularized pattern of staffing some 78 key positions in the National Production Authority for which general executive experience in specialized segments of industry, characterized by the industry divisions in NPA, was required.

I sought and received the advice and cooperation of the Secretary of Commerce and the Business Advisory Council of the Department of Commerce, composed of many of the leading industrialists of our time. As a regular medium for assistance in staffing where our own resources and contacts were not adequate, that body established an informal committee for the recruitment of executive personnel.

Assisting the committee as its executive officer was Mr. John J. Corson, who has given in and out of the Government much thoughtful consideration to this problem. I want to acknowledge his help and that of the committee and that of many individual industrial leaders, companies and trade groups. In particular, I wish to bring to your attention a study by Mr. Corson in a recent book published by the Columbia University Press under the auspices of the Public Administration Clearing House, entitled "Executives for the Federal Service." It presents a full and mature consideration of the background and nature of a positive program in this field.

In maturing a positive program, we must first determine what types of positions and what talents are required for the management of partial mobilization and full mobilization. For a top tier, but nonetheless sizeable number of executives in the mobilization programs, the talents demanded are comprehensive.

Depending upon their level in the top group, some or all of the following talents in addition to a successful management experience are necessary. Some must be capable of interpreting and reinterpreting their plans and policies constantly to the Congress and its committees, to such control agencies as the Bureau of the Budget and the General Accounting Office, to the spokesmen of special interest groups and representatives of the press and public. For Government executives are the agents of the people and are accountable in the pattern of a democratic, representative government. For these tasks, they must be capable of popular leadership. They must be able simultaneously to coordinate and manage the work of numerous organizational units for which they are responsible. This ability must include the vision and skill that will enable them to stimulate the minds and liberate the energies of the individuals that make up these organizational units.

They must be able to think in terms of public policy and to anticipate the effects of a governmental action in a thousand different places. They also must have an ingrained disposition to put the public interest first. They must have a sense of public relations or a political sense. Finally, they must have an extremely thick skin to withstand the inevitable criticisms of the press, of business, and of Congress.

Below the executives within the emergency agencies there must be many hundreds of industrial and commodity specialists recruited from industry. The span of attention of these men is more narrowly confined, but their actions are no less important and open to public scrutiny.

ATTACKING RECRUITMENT PROBLEMS. There are a number of reasons why individuals, highly trained and able, do not seek important and influential positions in the mobilization program. In seeking to establish a long-range policy for the recruitment of personnel, these reasons must be taken into account.

There is usually no single reason, but a combination of conscious and unconscious factors—compensation, home family prospects for the future, status and prestige, personal interests, and satisfaction with associates.

The one which we hear most often is that the Government simply doesn't pay enough to induce top-notch management executives and personnel into the mobilization program in a continuing regular employee basis. As William H. Harrison, NPA's first administrator stated: "Their refusals are based on the hard cold facts of mortgages on their homes, insurance premiums to meet, tuition payments for children in college, and all the other fixed payments which constitute the standard of living the would-be-appointee has established for himself and his family."

Another reason for the high percentage of refusals of management men to accept government assignments of this type is one which we all can readily understand, and which there is nothing we can do

much about. Some men refuse on the grounds that there is no person available to replace them temporarily in their private employment.

Still another reason, on which I have already touched upon, is the abuse of public officials. The American Government operates in an atmosphere of open questioning of government and public officials. Our cultural heritage influences the American people to repeatedly ask if the functions being undertaken are essential, and if the officials are qualified to carry them out?

There are, in addition to the reasons I've given, many underlying reasons why highly trained management personnel are not readily available—reasons which many of these persons cannot always make articulate, but reasons which must be combated if we are to establish a long-range Governmental policy.

What can be done to overcome the reasons which may cause men to refrain from this great public service in the interest of our national security?

The burden must rest primarily upon industry. The nation's business leaders must accept ungrudgingly the necessity of making available for this particular civilian public service some of their ablest executives, regardless of their attitude toward other governmental activity.

More leaders among business and professional men must accept the responsibility of convincing their fellows that governmental efforts to build and maintain our national defenses and control inflation are of such consequence to the country as well as the business community that they should see to it that talented personnel is available.

Believe it or not, some of the most far-sighted companies and even industries are operating on that premise today and accepting this responsibility.

Some businessmen will always be induced to aid the Government by a tradition of public service and obligation when the issues of the day necessitate their participation, and when they are convinced that public service in the defense agencies is not partisan in character. Other business leaders can be persuaded by the argument that the individual who serves in a top-level position would be of greater value to his corporate employer when he returns. Those who share these beliefs are limited. Their numbers are far less than that required for the long-range continuance of our mobilization program.

A climate of opinion must be developed in business which accepts the contribution of trained executives and specialists to serve in the mobilization program as a part of their obligations in free society. Business associations, Chambers of Commerce, civic groups and societies such as your own great society can contribute greatly in creating this climate.

Even as industry and business have a strong responsibility to join with Government in staffing the top positions of emergency agencies, it is also the responsibility of the labor movement to provide adequate labor representation when it is called upon. This is needed in order to represent the needs and views of workers in the defense mobilization effort—whether partial, stand-by, or total—as well as to convey to workers in their own terms the objectives and requirements of the program. Labor has, in the present instance, cooperated by sending to Washington some of its highest officials. Both the AFL and CIO are to commended for having played an important part in developing the fundamental planning for the use of manpower in the event of total war through their participation in the area, regional, and national Labor-Management Manpower Policy Committees. Such diverse programs as housing and community facilities, seniority and grievance procedures, training and apprenticeship facilities, education for workers' children, recreational, health and sanitation facilities, etc., can best be developed if labor gives its best thinking to the joint effort of labor, government, and industry in planning for the defense of everyone.

SOME POSITIVE STEPS. Certain positive steps can be taken by the Federal Government to supplement the career service now and in future emergencies with this specialized personnel from the cadres of management and labor.

First, the Government must continue to provide for and encourage the use of men and women borrowed from industry and labor to serve the defense mobilization program without compensation by maintaining the appropriate legislation and protective regulations on their use—protective to them and to the public when a conflict of interests is involved.

These persons will continue to receive compensation from their private employers. In World War II there was considerable criticism made of the use of such individuals. However, the employment of persons on this basis in the mobilization program must be considered by the Government as a necessary policy because it offers one of the best means of overcoming several of the reasons why industry personnel refuse to enter this phase of Government — inadequacy of compensation, lack of security in a phase of Federal Government employment which we all hope will some day be eliminated.

The second step to be taken by the Federal Government is the reappraisal of the present method of recruitment of executive personnel for service under the level of the President's appointive power. The present inadequate methods must be supplemented by a far-reaching coordinated program. Recruitment, admittedly, has been haphazard in too many cases. Officials send letters to industry requesting personnel; we make speeches before business groups interested in management such as your own; we request members of our industry advisory groups to send us personnel; and we ask those who have entered the government to encourage others to assume government positions.

The result has been that in some positions we have had more than adequate management skills, while in others there has been a deficiency.

Throughout this period we have been plagued by a difficulty arising out of the very nature of our recruitment. Too many of the executives brought into the government have come in under appointments of short duration—in many cases for only three months. Before these men have acquired proficiency in their jobs, they must leave. In addition, this intensifies the problem of continually finding replacements.

However, the Government must face up to a third and companion step, namely, the execution of a policy whereby industry people working for the Government are regularly and periodically rotated. This plan not only serves to overcome many of the objections which businessmen have when coming to work for the Government—as well as the objections of their firms—but it also serves the Government in building up a large reserve of qualified and experienced people who would have the ability to serve the Government competently in case of full mobilization. Moreover, such a system would be of great advantage to those employers who furnish personnel to staff the defense agencies.

A fourth step which can be taken by the Government, and I consider this extremely important, is that of the creation of a reserve corps composed of those who have served and will serve in the future in the defense program. Such a reserve corps can be compared with the Army's military reserve corps and will be an invaluable backlog in meeting any future emergency likely to arise. From the Government mobilization standpoint, this reserve will consist of a roster of former Government executives who have returned to private industry with a full term, not less than six months of service in which they have served in a responsible capacity.

This idea of a "Civilian Reserve Corps" for mobilization responsibility is not new. However, the idea has never been adequately explored and developed.

There should be adequate recognition for temporary service in Government. As the beginning point, the character of this recognition should reflect the modern realization that our security will depend upon our ability to mobilize America's industrial might quickly and efficiently through any challenge of all-out war. This process does not happen by magic overnight. We cannot add to the initial striking force we will possess by pushing buttons or making speeches about why we should have been ready. Just as it will take men on the fighting line, it will take men trained and skilled in the task of mobilization available and on hand.

The problem of a civilian reserve corps is how to train, preserve and make available the great national defense asset that will exist in the men trained and competent for this task.

It is my view that the preservation of the basic structure of the industry divisions in the National Production Authority in the Department of Commerce with the maintenance of some degree of regular contact with the men from industry who have served in these divisions is a first and necessary step. The maintenance on some kind of a regularized basis of the industry advisory committee system in the Department of Commerce to provide some channel of continuing communication between Government and industry on mobilization problems—present and future—would seem to be an indispensable part of the mobilization base we must sustain.

What I have said concerning the National Production Authority, while naturally derivative of my year's experience in that organization and three years of experience in the War Production Board, should not be construed as to confine the application of this principle to that particular agency. I am happy to report that the Bureau of the Budget has under consideration a similar plan of identification and contact with former Government personnel serving many other agencies who have played an important role in our mobilization effort and would continue to do so in one form or another in any total effort.

Beyond the problem of identification of a body of men and women with the special competency or familiarity with our industrial system and with sufficient experience in public employment to make them immediately useful when their services are called for, will be the problem of working out advance arrangements for their continued training and ready availability in succeeding phases of the current partial mobilization and full mobilization, should that become necessary.

CONCLUSION. In conclusion, I should like to speak as one who has served with many able, competent and loyal men from the ranks of management, labor and the career civil service in the current mobilization program. To those thousands, indeed, hundreds of thousands throughout the country who have remained outside the program but who are possessed of great talents and perception and who would like to see this mobilization program improved—who point out its faults and foibles, and who stand ready with pen and voice to assess its deficiencies, I would like to say there is a way in which all such persons can make a tangible contribution to the great national effort with which our lives, our fortunes, our way of life are inevitably and irretrievably involved, because of the implacable hostility of the forces that would destroy us. That way was defined several thousand years ago by one Lucius Emilus Paulus, a Roman Consul, who had been selected to conduct a conflict with the Macedonians in the year 168 B.C. He addressed an Assembly of the people as follows:

"In every circle and truly at every table, there are people who lead armies into Macedonia; who know where the camp ought to be placed; what posts ought to be occupied by troops; when and through what pass that territory should be entered; where magazines should be formed; how provisions should be conveyed by land and sea; and when it is proper to engage the enemy, when to lie quiet. And they not only determine what is best to be done, but if anything is done in any other manner than what they have pointed out, they arraign the Consul as if he were on trial before them. These are great impediments to those who have the management of affairs; for everyone cannot encounter injurious reports with the same constancy and fairness of mind as Sabius did, who chose to let his own ability be questioned through the folly of the people, rather than to mismanage the public business with a high reputation. I am not one of those who think that commanders ought at no time to receive advice; on the contrary, I should deem that man more proud than wise, who regulated every proceeding by the standard of his own single judgment. What then is my opinion? That commanders should be counselled, chiefly, by persons of known talent; by those who have made the art of war their particular study and whose knowledge is derived from experience; from those who are present at the scene of action, who see the country, who see the enemy; who see the advantages that occasions offer; and who like people embarked in the same ship, are sharers of the danger. If, therefore, anyone thinks himself qualified to give advice respecting the war which I am to conduct, which may prove advantageous to the public, let him not refuse his assistance to the state but let him come with me into Macedonia. He shall be furnished with a ship, a horse, a tent; even his traveling charges. . . ."

BUSINESS TRENDS

The Trend Of Business: A Challenge To Management

By W. Paul Jones
President, Servel, Inc.

YOU are very complimentary to assign me such a weighty subject as business trends and the part Management must play to cope with them.

I bring you, however, a viewpoint flavored by the peculiarities and exigencies of the home appliance business. That business, as you all know, is a "johnny-come-lately," relatively speaking. Nevertheless, it has become quite precocious indeed, during it's quarter century on the American business scene.

Today, it's being looked upon as a sort of business barometer because it so accurately reflects both spending power and current spending inclination of a large majority of our buying population.

For, if the family can, and is inclined to buy a new and perhaps larger refrigertor, a new and, of course, larger screen television, or a new clothes dryer, home freezer, or home air conditioner, then it's obvious that the future looks fairly safe to them from an earnings standpoint.

Conversely, if they do not yield to such buying urges, then it can mean that: (1) they do not feel secure about their future; or (2) they have not been tempted sufficiently with new appliances or by a new look or by new features.

If we can accept the proposition that the home appliance business represents and indicates trends of business generally, then we people in the home appliance business are, figuratively, in bed with the umpire.

From being in such close relation with the factors that help to make a trend, we should be helpful to you in revealing some directions Management plans should take within industry for ferreting out and dealing with those trends.

NEED FOR FACTS. One of the very first things we need to know about our business are the basic facts about any principal product that makes up our business.

To me the most basic fact of all is: What made the article or item sell in the first place?

We need to know *that* for many important reasons, but mainly so we can determine whether or not we are mistaking a bull market for genius.

Certainly the chaps that went overboard *too* far in investing in miniature golf courses in the early 30's had failed to properly analyze the urge and reasons why.

Likewise, in 1946, many scores of companies should have made a more thoroughgoing search into the urges behind the apparently insatiable demand for home freezers.

They would have discovered, of course, that the demand for that item was a bull market of short duration, born of a natural but limited hoarding instinct, resulting from several years of war shortages.

They might then have saved themselves much financial distress for the next several years, but just as importantly might have saved themselves the equally great mistake of going out of the business entirely.

It was simply that their timing was wrong by about six years. We now see the home freezer business revitalized to a point exceeding any volume of the first two or three lush post war years.

We know now that it rests on a solid foundation of consumer demand that stems from enlightened public understanding of its basic utility and its place in kitchen economics.

The reverse of that situation is the television business.

No one need do any researching to discover why television sets sell. That buying urge is as basic as the appeal of a movie theatre, the desire for a good meal, for a seat on the 50-yard line or behind third base.

Just the same it's hard and sometimes next to impossible to distinguish between a bull market and genius in that business.

When sales are booming in television as they are now, who can tell if it's the lasting desire for television entertainment as a steady diet, thus assuring a permanent market from that family?

Already, it's being learned that it is necessary to take into account that this is a national election year. That creates a greatly heightened demand for television, but unfortunately it comes but once every four years.

In England this summer, I found a greatly increased interest in the sale and purchase of television sets. The market for sets there has been very depressed for some years, due to both a dearth of interesting broadcasts and also a 66-2/3 per cent purchase tax.

Can you guess what is causing the current step-up in interest?

No doubt you can, of course, for it's still one of the big events of the world when the British Empire crowns a new ruler. Englishmen love their royalty and the pomp and circumstance that goes with it.

Englishmen want to be there with a television set next year, and, thus, from their viewpoint, be a guest at the coronation of Queen Elizabeth.

It will probably be a long, long time, however before another coronation. The industry can hardly grow and prosper in England with coronations 15 to 50 years apart. The company in the television business or about to enter it must not be too glamorized by present demand but rather must be extremely critical of other, longer range factors that really make up a trend.

A singular situation presently is about to be met in this country with a relatively new appliance item. The next year or two will tell the story of whether it's destined to be one of the major items of our times, or whether it will retrogress or simply fail to continue its advance toward major league status.

That item is the unit room air conditioner, which has sprung into such prominence in the last few years.

For more than 20 years I have been engaged, among other things, in the unit room air conditioner business. For most of that time both the industry, such as it was, and the buying public were more interested in looking out the window than in designing, selling or buying the product.

In fact, during much of that time my company represented about 60 per cent of the sales of the product.

Beginning in 1948, it has steamed onto the horizon like a new comet. In 1952, it more than doubled in sales volume from the previous year, partly because of one of the really hot record-breaking summers of all time.

For all of us who are in the business or about to enter it, the questions loom:

I. Will it last?
II. How big will it grow?
III. How long will its bull market last?
IV. When must we really be ready to apply our genius toward lower costs and prices, more refined appearance, greater cooling capacity and utility?

Those are all things that if properly analyzed, evaluated and planned will certainly keep us from stumbling into a situation of trends as mysterious in origin, direction or destiny as our fabulous flying saucers.

If we do stumble into it, then what?

When sales do slow down, as they have done in many major items in recent years, what then?

There are probably many answers or ways to answer, and mine may be oversimplified. It is necessary when sales slow down, for an industry to determine if it is caused by:

I. Saturation.
II. Lack of salesmanship, advertising and sales promotion.
III. Diminished basic product appeal.
IV. Lack of dress-up appeal, feature appeal or new utility appeal.

TACKLING THE SATURATED MARKET. If it's the first—that old devil saturation—that sets the trend and threatens the future, then management must meet the challenge by deciding:

I. Whether to get out and into something else.
II. To stay in because of a vested interest, but also to go into some other line or lines.
III. To stay in but figure out a new powerful approach to the market, and, thus, to rehabilitate it and at the same time become a commanding factor in it.

To me the choice is obvious, providing your product has a sturdy basic service to offer the public.

In fact, it is so obvious to me that it is hardly a choice but rather a fundamental of meeting Management's challenge from prevailing unfavorable trends.

Certainly one must stay in and figure out a new, powerful approach to the market, to rehabilitate it and, at the same time, become a commanding factor in it.

My company proposes to deal in such fashion with the problem of saturation in the household refrigerator market. At the same time, the other factors of abbreviated salesmanship, advertising and sales promotion, of diminished basic product appeal, lack of dress up appeal, feature appeal or new utility appeal are to be met.

For, in staying in on a new basic approach to the market, and with the wherewithal to rehabilitate the market, all the other factors such as salesmanship, advertising, sales promotion and overall general product appeal will have been solved too.

That kind of approach to meeting the challenge of an unfavorable trend does not preclude new and timely product additions.

Indeed, one of the phenomena of today's appliance industry is that nearly everyone is going to make and try to sell nearly everything that everyone else makes and tries to sell.

That trend is so decided and so unusual as to constitute a major problem in distribution, both at wholesale and retail levels.

The best-known washing machine company is going into the refrigerator business and will, of course, start with the least-known refrigerator. The best-known refrigerator company is going into the washing machine business, and will, of course, start with the least-known washing machine.

The situation is caused by the phenomena of saturation and widespread fear of what dire things may happen to a company, if its major products come up against a saturated market. It's the same fear that possessed dozens of auto manufacturers in the early 1920's, and caused most of them to quit the business.

It's funny though, isn't it, that someone is always becoming alarmed about the specter of saturation in one business or another. It's funny, too, how few times those fears and the alarms sounded are ever fully realized.

Again, as always, the best cure for so-called saturation is to dress up the product, incorporate new features, seek new advertising and promotion slants.

Cleverly done, the results will be as constructive as in the vacuum sweeper market, the first really saturated market to occur in the home appliance industry.

One company's new approach, both product-wise and sales-wise, has stirred up everyone in the vacuum sweeper business. Everybody's engineers are now hard at work developing new features; the advertising men are writing new sparkling copy; and the salesmen and dealers have forgot they could not be sold, and are going at it hammer and tongs and liking it immensely.

I repeat—certainly my viewpoint and approach to a saturated market does not preclude new and timely product additions.

Nor, does it preclude the search for and taking on of a well-balanced defense back-

log for several years ahead that make up the foreseeable future.

It does preclude the failure of Management to meet a challenge born of conflicting or unfavorable trends, in other than a courageous manner, in other than ways that best safeguard the equities of Management, Employees, Stockholders and the Public.

The Trend Of Business During The Next Three Years

By Gilbert MacKay

Senior Partner, Gilbert MacKay Associates

THIS is a particularly appropriate time to take "inventory" on where business is going. Economists and other forecasters are almost unanimously agreed that we have reached the crest of the boom and a depression or recession is around the corner. Businessmen are perplexed about the outlook, perhaps more so than ever before. It is well known that new family formation is falling, that consumer goods markets are becoming fairly well saturated and that new plant and equipment expenditures are going to decline. Therefore, what will prevent the deflation that would ordinarily follow? Is the defense boom going to pop like a balloon in 1953 or 1954?

I recently returned from Europe and a few months before made another business trip around South America. There is no better way to analyze one's own country than by getting away. Hence, let's look at the basic fundamentals under which our economy is functioning and then attempt to forecast the trend of business during the next few years. There are six basic fundamentals:

POLITICS. The outcome of the Presidential election should have no immediate effect on business conditions. True, there may be some shortlived psychological effects, such as the stock market, and some new cabinet faces—as was the case in Great Britain a year ago when Churchill came back into power. In our country, no matter who becomes president, we all know that government expenditures will continue to increase, deficits will not become surpluses, high taxes will still be with us and so will general business remain around current levels for about another year.

OUR GOVERNMENT (DEMOCRAT OR REPUBLICAN) IS COMMITTED TO FULL EMPLOYMENT. In effect this means full employment of physical resources. The Unemployment Act of 1946 states: "It is the responsibility of the Federal Government to use all practicable means to promote maximum employment, production and purchasing power." This act has never been fully tested, but it is a powerful weapon against future depressions.

Unfortunately, economic history teaches us that any Administration has two choices in the long run: unemployment or creeping inflation. You can judge for yourself which path will be followed.

OUR "LABOR" OR SEMI-SOCIALISTIC TYPE OF GOVERNMENT IS HERE TO STAY. In reality we have had a so-called pro-labor administration for the past 20 years. In fact every country in the free world has varying degrees of "labor" governments, regardless of political party labels. This will be true at home irrespective of which party wins.

The 13 million youths that served in the last war, not to mention the 3½ million more serving at present, have become accustomed to paternalistic government. Most of these young people were provided with better food, clothing and medical aid than ever before.

The rise of the labor unions with over 17 million members has caused tremendous power to be vested in the union leaders' hands.

The 15 million factory employees, the 6½ million federal and state government employees and the 7 million farmers are voting for policies designed to maintain full employment and paternalism.

In short, during the past 20 years there has been a decline in the businessman's prestige and a resulting rise in the influence of employees. The result: a continuing form of what is now called a labor or semi-socialistic government.

THERE WILL BE CREEPING WAGE-INFLATION FOR AT LEAST FIVE TO TEN YEARS AHEAD. So long as unions remain powerful there will be annual wage increases. We have just had our 7th annual "pattern" in the seven post war years. There will be many more to come, varying by different percentage rises. This will be true in good and bad business years. In the 1949 recession, hourly wage costs (take-home pay plus fringes) increased 4½% over 1948. This is in sharp contrast to all previous business set-backs when wages were always reduced.

These annual wage increases will continue until the public eventually decides to regulate the unions and collective bargaining. Until this major change takes place we will have a gradually depreciating dollar. You can easily figure this out yourselves. Technological improvements by management results in worker productivity increasing by slightly more than 2% a year. So long as wage costs (take home plus fringes) increase more than this, the difference has to go into higher prices over a period of time.

THE INTERNATIONAL SITUATION. For the first time in our nation's history, we are confronted by the existence of a world power equal to us in potential size and strength, and, more important, known to be antagonistic to the United States. Walter Lippman ably describes Russia and her satellites as "the largest empire in the whole history of mankind."

OUR EXPENDITURES FOR DEFENSE AND RELATED ACTIVITIES WILL AVERAGE BETWEEN $50 AND $60 BILLION YEARLY FOR SOME YEARS AHEAD, THREE OR FOUR AT LEAST. Compare this with $1 billion a year pre-war and $16 billion a year pre-Korea. The real effect can be visualized when it is realized that the additional annual defense expenditures for 1953, 1954 and 1955 are equivalent in dollar volume to adding between two and three new automobile manufacturing industries to our business structure. Our defense expenditures, contrary to general thinking, will not reach the projected peak until the last half of 1953. Then, they will level out and should not decline until possibly 1956 or 1957. In the meantime, Pussia and her satellites are still outproducing us in weapons. As a result, there is little likelihood that the defense program will be cut for many years to come. If this is so, we should not have any major recession or depression for a long time, in spite of the contrary opinions of most forecasters. In the distant future, when defense spending may be moderately reduced, public works expenditures will act as an offset. Thus, the obvious conclusion is that our government will operate in the red and deficits will become normal again, after having had balanced budgets on the average during the last six years.

WHAT DO THESE SIX BASIC FUNDAMENTALS ADD UP TO?

I. Up to 1932 the majority of the people voted for a sound currency; since then they have voted for full employment—or in other words creeping price inflation.

II. Since 1939, businessmen have had to learn a rather complete new set of business rules and procedures. Still another new set of rules has to be added to our business lives since Korea when we started our defense program. In short, all wars and/or defense booms have inflationary implications.

III. Annual wage increases have become a normal habit. If any administration fails to allow such rises, a more pro-labor government will probably come into power in due course.

IV. Defense expenditures guarantee that production will be maintained at a relatively high level.

CONCLUSION. As a result of the foregoing remarks, let me suggest some corporate policies that might profitably be put into use:

I. Establish a weapons division in each company—large or small, so as to obtain some of the $30 billion per year military "hardware."

II. Reduce manufacturing and distribution costs, but not advertising. Pre-tax profit margins are going to decline further, particularly with the buyer's market and ever-increasing wages. It is obvious that the low cost producer will always do well. Every well managed concern should have the courage and vision to install new equipment which is as advanced as the guided missile is compared with conventional aircraft. Industry generally has not been impressed sufficiently with the trend towards the automatic plant.

III. Spend extra large amounts on research and develop new products with "gadgets" attached. We are a gadget country.

IV. Buy or merge with other companies in a similar line of business. Larger corporations have a better survival rate.

V. Integrate vertically. Every time your company buys an item from someone else the other fellow's corporation income tax is frozen into your cost structure. You, in turn, must add this tax to your selling price. Make more items yourself to keep costs as low as possible.

VI. Establish foreign subsidiaries, particularly in Canada and Mexico—the great growth countries of the world during the next generation.

VII. After 20 years of living with the Great Depression, World War II, and the "cold war," each company should have a Vice President in charge of "Living Under Today's Conditions." Seriously, each year brings up what to do about various governmental policies,—such as taxes, renegotiation, minimum wages, price controls, etc. All of these have more to do with your company's future than any other factors.

MOVING??

If you are going to move, be sure to notify us as early as possible, preferably five weeks in advance. Send us your old and new addresses, with zone numbers, if any, by letter, card, or post office form. Also, notify your local post office of the change. This way you will continue to receive your copies of ADVANCED MANAGEMENT without interruption.

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CANDIDATES ARE SOUGHT FOR 1953 INDUSTRIAL INCENTIVES AWARD

Dr. Herbert A. Lynch, Chairman of the SAM Industrial Incentive Award Committee, has announced that the Committee is now considering candidates for this award.

The objectives of the Award are to: (1) stimulate research and investigation; (2) induce dissemination of the results throughout management and the consulting profession; and (3) widen acceptance and use of results by industry.

The Award is presented at the Annual Time Study and Methods Conference, jointly sponsored by SAM and ASME, to be held on April 16-17, 1953, at the Hotel Statler, New York City. Arthur Rath and Alexander Strong of the firm of Rath & Strong, Inc., industrial consultants of Boston, established this Award in 1946.

The successful candidate receives a medal, the winning study is published in ADVANCED MANAGEMENT, and, in special cases, the recipient may be given a sum not to exceed $400 to finance further incentives research.

A second award consisting of a paid-up three-year membership in the Society for the Advancement of Management, and a third award of a two-year paid-up membership in the Society may be awarded runner-ups.

CONDITIONS. Candidates for the Award must submit written evidence of an original idea, new techniques, advanced development, or unique and constructive application considered an outstanding contribution to the science and practice of incentives in industry. The contribution must not have been published previously. If actually put in practice, this must have been at the suggestion of the candidate for the Award by him, or under his supervision, observation, or control; and the application must have been completed within the 12 months preceding submission to the Committee.

The Industrial Incentives Award is for work applicable throughout the whole field of financial and non-financial incentives, performance standards, and time study in industry, extending from the least skilled employee to top management.

RECIPIENTS OF AWARD. Past winners include Mr. John W. Nickerson, management engineer of West Hartford, Conn., in 1950; and Mr. Ralph W. Barnes, of the University of California, Los Angeles, in 1952.

Individuals desirous of consideration for the Award should address their applications to Dr. Herbert A. Lynch, 117 East Third Street, Charlotte, N. C.

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Round Table Discussion
PRODUCTION TRENDS

EARL M. RICHARDS, Chairman
Vice President, Republic Steel Co.

OPENING REMARKS
By CHAIRMAN RICHARDS

As you have noticed from the program, our subject is "Production Trends." Before we peer into the future, we should first take a look backward to a hundred years ago when our forefathers lived in a hammer and handpower age; 79% of the work was done by animals, 15% by man power, and 6% by machines. According to the studies of the twentieth century, it is estimated that by 1960 the 79% animal power will drop to 1%, the 15% man power to 3%, and the 6% machine power will rise to 96%. This is a transformation in a century from a man and aminal power age to an almost completely automatic era.

As typical of what has transpired, I would like to give you a little history of my own industry, the steel industry. In 1860, just before the Civil War, the industry produced 13,000 tons of steel. It now has the capacity to produce 8,000 times that much. Think of it! An increase of eight thousand-fold! For many years the industry doubled its capacity every two years or five years. I often have to picture the courage and vision and energy of our forebearers to double their plants every two to five years, and then to do so again and keep on repeating it in this geometric ratio.

That is the history of the industrial growth of our country in many lines. In fact, with 96% of all work performed by machines, we have almost arrived at the push-button age, sometimes called automation, the subject of one of our papers here today.

That brings us to the problems of manpower, how to distribute the duties of our operating forces, and how to award the men, and also raises the question, "Where will we get the raw materials to cope with this economy?" All three questions will be considered today.

Now, the first paper relates to raw materials. For many years the theme of schoolroom specialists has been America's inexhaustible resources. For centuries our country was self-contained. Nearly all our needs were met, and we could, and in many cases did, produce a surplus beyond the requirements of our citizens. But in the last decade, and particularly since World War II, that has changed. Many people in this country do not realize this situation and the significant conditions of what is occurring. For example, ores, for many of our requirements, must be supplemented by foreign sources, such as aluminum, magnesium, nickel, cobalt, iron, etc.

Now, consider the steel industry. At one time, we talked about the inexhaustible iron ores of our country. Do you realize that right now steel companies are setting up mills abroad to develop foreign iron for us?

What does this mean? It means that we have to go to foreign sources for our ores. It means bigger investments, higher costs and therefore higher priced steel. It means the end of the talk of America's inexhaustible resources. It means, and I think this is the important thing, that we of the United States, comprising six per cent of the people of the world with five per cent of the land, who have been trying to help take care of the material wants of the other 94% possessing 95% of the land, might take another look at that policy.

For example, again from the iron ore viewpoint, it becomes significant when we realize that Asia and Europe have 50% of all the known iron ore reserves in the world. We talk about our great resources of iron on the North American continent. Actually we have but 12% of the world's iron ore. The Soviet has 12%.

We become increasingly more dependent, for raw materials on the other parts of the world. Look at all the implications that go with it!

Sometime ago, President Truman appointed a "Material Policy Commission" to review the entire raw material situation for this country. That Committee recently published a report entitled, "The Resources of Freedom."

Today, we have with us one of the Commissioners who prepared this fine report. He will speak to you on the "Sources of Raw Materials."

Sources Of Raw Materials

By Edward S. Mason

Member, "President's Material Policy Commission" and Dean of Graduate School of Public Administration, Harvard University

THE question I want to discuss with you is whether the production trends we see before us are likely to be handicapped seriously by shorter and shorter supplies of raw materials. I should like to draw a distinction between two kinds of shortages, or rather, two different ways of using this word shortage. One of those ways is in a purely physical sense; the supply of materials is inadequate at an existing price level to meet the requirements for those materials. Now, that, I think, is essentially a short-run problem. I don't want to say much about it.

The second, and I believe more important sense in which the material shortage is used, is whether or not an adequate production of materials is likely to be forthcoming only at an increasing real cost. Are we likely, in order to meet our material requirements, to have to spend an increasing quantity of labor, capital, managerial talent per pound of material that we get out of the ground? That is essentially the long run problem, and that is the problem on which I want to concentrate major attention.

Let me say a few words, however, on this short-run problem. We have just been through such a period. Beginning with the Korean war and extending down until a few months ago, we really were faced with a problem of physical shortages, and we could, if we want to, spend a lot of time talking about whether the right things were done to meet such a short term problem. Two aspects of this situation are worth noting.

First, the kind of a situation created by the Korean War in the raw materials field poses a problem that is very difficult within an unfettered price system.

In a situation of that sort, when the whole change in the material requirements is largely unforseen, it is extremely important and at the same time very difficult for an unhibited price system to function effectively. If you don't have controls stepping in, you have prices of various materials moving out of sight, and you have a situation in which a lot of highly important priority items needed to be produced by industry cannot be produced because of those shortages.

Second, I am by no means sure that we are not going to see, from time to time, a reappearance of that kind of situation. It happened this time in Korea, and other times it may happen somewhere else. If it does happen somewhere else, you are going through the same kind of a pattern—a sudden increase of requirements, a marked change in the composition of requirements, and the tremendous impact of anticipatory buying.

I think, therefore, it becomes rather important to study the Korean situation pretty carefully, and see how things might better be handled than they were this time. In particular, I think it becomes important to look at a government stockpiling policy, and to ask whether a more sensible line of action might not be adopted another time. But, having made

these two points, I now want to turn to what I regard as the essentially important question.

THE LONG-RUN PROBLEM. The long-run problem may be stated as follows: Are material requirements likely to be met without an increase in real costs per unit of material in-put? There really isn't much relationship between the first problem and the second problem, and I want to emphasize that fact. It has been said that when this Commission was set up, we faced a material shortage problem. When the Commission made the report, it was very clear that we were running out of the shortage period and into a situation where lots of materials were in surplus. Consequently the report really has no relevance to the situation that now confronts us.

Nothing could be more wrong. The Commission was not concerned with this problem of physical shortages, which is essentially a short-run problem. It was concerned with this larger question, what is likely to happen to the real costs per unit of material in-put as our requirements increase?

The thing that really creates the long-run problem, is essentially the great growth of the American economy, together with the growth of the other economies in the free world. That general rate of growth, that trend, is not seriously effected by the ups and downs that have characterized the last two years in the materials field. This longer-run problem is set by the growth rate in the United States, which of the last hundred years, has roughly ranged at about three per cent per annum, about three per cent per annum increase in the value of out-put, the real value of physical out-put in the United States. That is about the average growth rate in the period since 1900.

If you went back beyond 1900, the growth rate would be larger than that. A growth rate of that magnitude means that the income of the United States tends to double about every 25 years, and the kind of long-range problem that the Commission is looking at was couched in terms of that sort of growth rate.

The Commission consequently looked forward, and I think with some justification, to a situation in 1975 when we would be producing twice as much as we were producing in 1950. The question then is, are we going to have sufficient raw materials to meet those requirements?

Let me say here and now that a doubling of national income does not mean, certainly in the case of the United States, a doubling of material requirements, and there are certain reasons why that is so.

In the first place, you tend to get a diversity of resources away from manufacture and into the so-called tertiary area, service industries, distribution, etc.

In the second place, since the end of the war to 1950 or 1951, you had an abnormally high production of durable goods and capital goods. That kind of out-put is heavily material using. The Commission took those things into account, and instead of projecting—I am not saying forecasting—I am saying projecting—material requirements for 1965, doubled, 1970 doubled, they looked forward to a situation in which you place a 50% to 60% increase in the material requirements. That, however, is a very large increase in material requirements.

ECONOMIC GROWTH. At this point it is necessary to make a slight digression on the subject of economic growth. Economic growth consists really of two elements. One is the element of population growth. The second element of economic growth is increase in per capita output. If you look at what has happened to the per capita output in the United States over the last 50 years you see only that there has been about a two per cent increase in the per capita output. The Commission projects a slightly higher increase in the per capita output over the next 25 years. It is putting those things together, the increase in population, the increase in the labor force, plus the increase in per capita output, that brings these statements of economic growth.

Now, certainly, if you looked forward indefinitely in time, I think everybody would agree that at some period the economic growth would have an ending rate. On the other hand, this other element of economic growth which consists of an increase in per capita output, may extend indefinitely in the future, if you can find adequate raw materials to keep it going without encountering rapidly increasing real costs.

Now, when you look backward in American history, it becomes very clear that the rate of our economic growth has been partly based on the fact that we have been able to get raw materials at continually declining real costs per unit of materials. That, of course, is one of these important elements in economic gr wth. Declining real costs mean increasing productivity per man employed in raw materials output.

Now, we still seem to be moving in that direction. In fact, few look at the last ten years without being astonished at the rate of increase of agricultural productivity. Between 1940 and 1950, our agricultural output increased about 40% without any increase in the labor force.

However, as we look at the minerals field, there is some reason for wondering whether in the last decade there has been a marked change in the trend which existed in this country for the last century. There are various bits of evidence such as the probability that the cost of discovery and production of oil are now on the increase, the necessity of resorting to lower and lower grades of minerals, ores and domestic production, and the fact that in the nonferrous metals areas, we have not had any really large new discoveries within the boundaries of the United States for a long period of time.

Now, it may be, of course, that the peculiar circumstances of the last ten years have something to do with it, and this is a fact that ought to be noted. In the decade between 1940 and 1950, the national income of the United States doubled. It doubled in that decade largely because we started the decade with something like ten million unemployed.

FOREIGN SOURCES. Another point that I think needs to be brought out is this, that if, during this recent period the United States had not been able to turn increasingly to foreign sources of supply, there is no doubt that the real costs of supplying our material requirements would have increased. If we had been forced to rely on domestic sources of supply to the extent we have in the past, certainly our real costs would have been turned upwards quite markedly. I think probably one of the really important effects, documented in the report of which I am now speaking, is that within the last ten to fifteen years the United States has changed from being a net exporter of raw materials, into a situation in which we are a net importer of raw materials.

If you go back about 50 years, in 1900, the United States was exporting 15% of all of the total raw materials consumed. In 1950, we were importing nine per cent of our total raw materials consumed. And, so far as I can see, this dependency on foreign sources of supply is going to increase. Now, that I think is nothing to worry about, or rather, we wouldn't need to worry about it if conditions abroad were propitious for expansion of materials for export. It is not altogether clear, however, that that situation exists. What you can see for certain is this, that the raw material reserves and high grade reserves do exist outside the United States in the rest of the free world, so that, if they are not forthcoming without substantial increases in real costs, it is not due to technical factors. If manpower and equipment could be applied to this development of expansion of output, those materials would become available for export to the United States at no increase in real cost, and probably a continual decrease in real costs per unit of output.

They may not, however, become available. If they don't become available, it will be because the resource countries are hell-bent for industrial development, regardless of what their real interests are, and resources, instead of being applied to the expansion of output of raw materials for export, would be too exclusively applied to the production of complicated products at very high costs to themselves.

Or, it will be because the climate which they provide for foreign investment is not such as to make it attractive for visitors from the United States and western Europe to invest in those countries. But the materials, let me reiterate, are there.

The problems we have to face are essentially problems of encouraging a better climate for private form of investment in those areas and of reducing tariffs in those areas. In other words, the pursuit

of political and economic measures, rather than the devising of new technical means.

Now, then, if we are going to handle this raw material problem, I think one solution lies in the expansion of output for export of raw materials in resource countries outside the United States. I think, secondly, the main solution lies in continual technological improvement, in the discovery of minerals, in the extraction of minerals, in the elimination of waste in the use of minerals and in the adoption of substitutes so that the two main lines of attack, so far as I can see, are, one, development of foreign sources of supply, and, secondly, the perfection of technological science of raw materials in this country.

(The following questions were asked from the audience and answered by the speaker).

DISCUSSION

QUESTION: How much of our importing of materials is due to the fact that we just don't have the material, and how much is due to the fact that the material we have is so expensive that it is better for us to go abroad then to dig out and develop our own materials?

ANSWER: I think the general answer to that question is this. We could supply almost any material required in American industry from within our own shores if we had to, but frequently at costs that would be more than what present costs are. We could supply our manganese requirements in this country, but it might mean that you would have to pay four or five times what you are paying for manganese.

I think it is mainly a cost question, rather than an absolute shortage. Now, of course, there are some metals of which that is not true. I don't think there exists in the United States enough tin to supply more than five to ten per cent of your requirements, no matter what the price of tin is. I think there are relatively few metals that belong in that category.

QUESTION: How about copper?

ANSWER: I think you could supply for at least a period of time your copper requirements if you let the price go up. If you let the price go up, in the first place it shuts off a large part of the demand for copper. If the price of copper goes up too high, you are going to substitute aluminum, stainless steel, and various other things for copper in particular uses, and you are also going to make it possible to buy much lower grade supplies. I think for a period of time we could supply our t tal requirements of copper, but it would be a sharply increasing process in costs.

QUESTION: Did I understand Dr. Mason to say that provided we have a favorable political climate, that our raw materials would continue on a downward trend in cost?

ANSWER: Yes. If we had a favorable pc litical climate in foreign countries, I have no doubt about it, that an increasing percentage of our total consumption of raw materials would come from foreign s urces. After all, as Mr. Richards knows much better that I, we are running out of really high grade sources of iron ore at home yet an extremely high grade source exists abroad. The high grade sources of copper and most of our other non-ferrous metals lie abroad.

QUESTION: Have you given consideration to what will happen to us as a nation in a 100 years r so when a nation, as for example India, where you now find people starving on top of riches but who eventually like the Russians will find out what they have?

ANSWER: The first aspect of that question is this. If these foreign countries with large reserves of high grade materials, minerals, really want to develop economically, they ought to remove some of these barriers through the establishment of output and exports. Of course, some of them have. You have some striking examples there. One of the most striking examples is Venezuela, where 97% of the total foreign exchange of Venezuela is accounted for by oil exports, where 60% of the total government revenues are accounted for by oil royalties, and where a large part of the industrial development in Venezuela depends on these earnings of minerals and exports. I would say that other countries could come into that position if they wanted to develop their resources that way.

I think the second part of your question really touches on this matter as to whether we ought to worry, in the very long run, on account of this increasing dependency on foreign sources of supplies. Of course, there is one aspect to that question which is a serious element, the security element. If the United States should get into a hot war without notice, and I am sure if we do get into a hot war, it will be without notice, then if we are heavily dependent on the foreign sources of supply, those areas would be cut off.

That is a problem the United States has to face increasingly. I would say there are ways of facing and meeting that problem. One of the ways is through the stockpile approach. Another way is by developing sources of supplies in safe areas, although not necessarily in the United States.

Another way of handling it would be to set off certain underground sources of material supplies as for example oil. There are various other ways of handling that problem. It is a problem that will have to be handled, if we are going to safeguard our security.

QUESTION: Has there been any investigation of possible submarine sources for raw materials?

ANSWER: Yes. There has been a lot. That is in its infancy. You have a couple of things, magnesium and boron, which you can get from sea water now. You know very well that every mineral in industry is to be found in sea water, but frequently in a very diluted form.

QUESTION: I was thinking particularly of underground sources.

ANSWER: I think that has to do partly with the technique of discovery. The oil industry is way, way ahead of the other mineral industries in the development of techniques of discovery. Other new techniques are becoming available in many fields, in the mining fields, but they are lagging behind.

QUESTION: I wonder as the result of your study, are you optimistic or pessimistic about the future?

ANSWER: Well, I think, looking over the next 25 years, and I think that is far enough to look, perhaps too far to look, I don't see why our raw material requirements can't be met without a sharp increase in real costs. Now, if they are to be met that way, I do think that you have to solve some pretty difficult problems. I would say that a couple of the most difficult problems, certainly the most difficult and most important, has to do with providing the right kind of sponsorship of output for export in foreign areas.

The second most important is the development of new techniques for the disc very of ore.

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Trends In Incentives For Production and Maintenance Employees

By John W. Roberts

Vice President, Albert Ramond and Associates, Inc.

SEVERAL weeks ago your chairman requested that I address you this afternoon on the general subject of "Trends in Incentives," and more particularly as they concern the Production and Maintenance employees in industry. He further suggested that I review some of the historical background regarding incentives, as a prelude to reviewing current industry practices in this respect. In summary he suggested some predictions as to the future trend of our incentive programs. I accepted the assignment with humility and will try to fulfill the request in line with my potential.

As a professional engineer, I have been in almost daily contact with the industry problems of production, wages, and incentives for nearly 30 years. From this rich and privileged experience, and where I confess that at times expediency and compromise triumphed over principle, has come a deep and abiding respect for this challenging, fascinating and intriguing subject. There is no single force in all of industry that so unites the interests of management, employees and the public as do financial incentives. Our techniques and understanding have improved vastly in recent years. We have had the experience of several emergency production periods during wartime to gain experience at one extreme of our economy and there were several depressions that provided a testing experience at the other end. Incentives have stood the test of time and are today an accepted and definite part of our industrial pattern.

But before we discuss the current trends, let us consider very briefly the early history of incentives, and its pioneers, in order to better appreciate present practices and projected predictions.

HISTORY AND DEVELOPMENT. The principle of incentives is very old. It follows closely the history of payment for labor. We read in Lloyd C. Douglas' book, "The Robe," that a landowner at the time of Christ made the following observation after he had increased a worker's wage from 2 to 3 sesterces per day:

> "He even conceded to Marcellus that the sesterces he had added to the worker's wage might have had something to do with the gratifying fact that there had been a surprisingly small loss lately on melons bruised by careless handling."

The sesterces referred to were equivalent to about 4.1 cents.

We read again that in the 13th and 14th centuries piece work was in wide use and had been extended to agricultural work. The labor history of England indicates that in 1776 straight piece work as a means of payment was in wide use in that country. Logically, it became the first of the combination wage and incentive pay systems that was used in this country.

In the early days of the steel industry it was a common practice for highly skilled key men to operate their mill on a contract price basis to the company, and to train and pay their own assistants. In many cases, the tonnage rate was related to the sales price of the finished product with periodic price changes being reflected in the mill tonnage piece price. Thus, directly, the philosophy of wages for these key contractors was "a share of the sales dollar," and the earnings of these men, relative to going wages, was high, but so also were the effort, skill and supervisory requirements on the old type equipment. The tonnage rates and piece prices were arbitrarily established and negotiated. This period, which extended through the year 1900, has often been referred to as the non-time study era of incentive wage payment.

THE PIONEER ERA OF INCENTIVES BASED ON TIME STUDY. In 1880, Frederick W. Taylor began his experiments which laid the foundation for the time study approach to incentives. In 1895, he presented a paper entitled "A Piece Rate System" before the American Society of Mechanical Engineers. The principles which he described in this paper had been evolving since about 1880 and this was the first formal presentation on the subject.

In 1886, Mr. Henry R. Towne, President of Yale and Towne Manufacturing Company, presented another thoughtful paper before the American Society of Mechanical Engineers. His words were a plea for engineers to concern themselves with the financial and profit making aspects of management.

Out of these papers and the discussions that followed, grew added pioneer literature on wage systems and incentives, spearheaded to a large extent by the work, writings, and leadership of Mr. Taylor.

Taylor's chief concern was the effective utilization of manpower. He reasoned that under a daywork system, men quickly concluded that there was no profit in working hard. He believed further that under the ordinary piece work plan, the fear of piece rate cuts by the worker also led to serious restrictions of worker output. His method of attacking the productivity problem consisted of method analysis, work measurement and a strong incentive program. He also provided administration policies which stated that once a rate was established, it would never be cut.

Taylor maintained that if management was sure of its method and its measurement, there was no need to cut rates. He published a number of papers under the heading, "Elementary Rate Fixing," to describe his methods of time and motion study. He said that the study of a job by elements gave a much more exact evaluation of the work content than did an overall study of that same job. He inaugurated the element description and the timing of jobs with a stop watch in order to obtain unit times. He recognized the need for applying rest and necessary delay factors.

The incentive plan he compounded to induce employees to work at an incentive pace came in the form of a differential piece work plan. This was a sliding scale arrangement whereby a fixed rate per piece was paid for output below a minimum base requirement, and a higher rate per piece paid for above the maximum base requirement output. In modern parlance, we might describe it as something less than a "1 for 1" plan when production was below the required minimum; approximately "1 for 1" when production was in the normal areas; and a progressive differential of more than "1 for 1" when production exceeded normal output. Taylor maintained that substantial incentive strength was justified on the basis that as production increased, the amount of overhead expenses per article diminished.

There were many other pioneers of this same period, some being offsprings of a prior association with Mr. Taylor. Such names as Gilbreth, Gantt, Emerson, Cook, Barth, Halsey, Bedaux, Merrick, Diemer, Rowan, are the ones that appear frequently in the early literature regarding incentives, and each with a pay formula that expressed his incentive philosophy. And, gentlemen, these pioneers were master salesmen of their intangible and individual philosophies.

Interest in incentives based on time study reached its peak in the year 1910, and shortly thereafter many of the plans met with resistance and either elimination or correction. The high incentive strength incorporated in the Taylor differential piece work plan began to backfire. It takes no stretch of the imagination to realize that under its stimulation the worker would often turn out production at the expense of quality, of equipment, or their own well being, or all three.

At this same time we were witnessing revolutionary social changes with a changing behavior by employees in industrial plants. Management attitudes too were changing under the leadership of those who were advocating "teaching and guiding" as opposed to "ordering and driving." In line with this new concept,

came a revision in incentive philosophy and we find new plans in evidence called "gain sharing," "50-50," "75%—high task," etc., which were mildly descriptive of the lowered incentive strength and the changed relationship between base rates and incentive pay.

In 1916, as a prelude to World War I, there was an unprecedented demand for the goods of production. It was at this point that incentives were resuscitated and revived. New techniques and principles were adopted and applied to much broader fields with greater acceptance by both management and employees, and of course during this period we had to endure the man who saw everything, heard everything, and knew everything—"the efficiency expert."

After World War I, came a general consolidation of techniques regarding incentive practices, culminating in the beginning of many of the plans and practices in effect today. You will remember that during this period there was a gradual and steady arrival of our present laboristic economy with further changed behavior of employees in industrial plants. There was also a significant change in management – the *paternal* management of yesterday was being slowly replaced by the *professional* management of today. The latter group was quick to recognize the new importance attached to employee attitudes, and the need for a strong and parallel effort on the part of management and employees on any project that made for greater economy in manufacturing. Against this background came several large movements, each having a noticeable effect on the wage productivity problems:

I. The rapid conversion to continuous rolling processes in the steel industry, with progressive increases of speeds found possible.

II. The increased use of mass production equipment in industry generally and especially in rubber, fabricating and automotive production.

III. The increased unionization of industry, which by this time was affecting the ability of management to alter wages and incentive or tonnage plans in conformity with changing methods.

As a result of these events, a very uneven and inequitable wage pattern became frozen, and this set the scene for later adjustment through acceptance and widespread use of job evaluation practices. Incentives that had been established on the uneven and inequitable base wage pattern were under attack and there was substantial adjustment of pay plans. During the years between 1925 and 1935, we find many companies had recognized this situation and were working in the direction of uniform policies and elimination of inequities in their hourly wage structure and incentive procedures.

We find also that many incentive programs established during this period are in successful operation today, and while the era of the 30's saw little extension of wage incentive plans, it did give birth to most of the techniques that we consider sound and acceptable at the present time. The 30's were largely depression years, and it was a testing decade for incentive programs. For instance, it was definitely established during this period that if incentives were to be successful, management had to make a strong effort to make an incentive pace by the employee easier of accomplishment through better preparation, better scheduling, better maintenance of equipment, etc. This was the "new look" of the 30's and it also applies today—only more so.

WORLD WAR II DEVELOPMENTS. Next followed the impact of World War II. During this period the tempo of incentive acceptance was greatly accelerated. There was a tendency to make applications on a mass production basis without the detailed study usually associated with such plans. While this was an acknowledgment of the merit of incentives to stimulate production, it left a path of unfavorable reaction and set the scene for many damaging disputes between labor and management. Most of these "overall" plans were applied only to special war production and passed out of existence when the emergency ended. It was a short lived conquest where expediency triumphed over principle.

Stabilization policies during World War II focused attention on inequities that existed in the steel industry wage pattern, and resulted in an epoch-making directive by the War Labor Board in February of 1944, directing certain of the larger steel companies to negotiate plans for the elimination of both wage and incentive inequities. A substantial amount of time and effort was spent on this project by management and union representatives, and much corrective and constructive work was accomplished in the area of objective policies for the administration of base hourly rates and incentive programs. Beyond any doubt there has never before been such a concentrated effort made by so many qualified engineers, union representatives, and management representatives, to develop the best known procedures to bring about order and understanding regarding the equity that should exist in wage and incentive procedures. This study was a constructive influence generally and formed the basis for much of the present day techniques in the steel and metal products industries.

During this same period many profit sharing and similar type plans were introduced in an attempt to stimulate production, productivity and lowered costs. In these plans the reward was not truly nor closely related to personal application. This was a deviation from acknowledged principle that usually results in passive acceptance and failure. With few exceptions these plans failed to achieve the initial objectives and were abandoned by management after a short existence.

THE PRESENT TIME. The present incentiv situation is one of wide diversification as the result of the foregoing history, b. practically all plans today are based time study and well established principles with equipment performance, man p- formance, quality performance, or sor combination of these used as the basis incentive calculations. There is contra too, for we find many companies in tl beginning stages of long range objecti incentive programs, while in others, nc ably the automobile industry, there is lit.. pr gress toward increased use of this instrument.

COVERAGE. The proportion of wage ea ers whose earnings are determined b combination of base wages and incentive wages has shown a gradual increase over the last 30 years. In 1924, the National Industrial Conference Board studied a cross section of industry including 631 manufacturing establishments who employed 700,699 wage earners. They felt this would provide a reliable index of the approximate proportions of employees whose earnings were determined by straight time rates and/or piece rates, premium or bonus systems; 56% of the workers were on straight time rates and 44% on some form of incentive wage pay.

In 1935, the Conference Board conducted a similar survey, and the percentage of coverage was almost identical.

I have not seen an authentic and reliable study of this situation in the past several years, but examination of various industry surveys would indicate that coverage in manufacturing establishments is now slightly over 50% of the total workers. A recent study of the 16 largest companies in the steel industry indicated 52% coverage. We see many plants today where the coverage with incentives will vary between 85 and 98% of its production and maintenance workers.

The clothing industry has for years been the notable leader with incentive coverage, upwards of 80% of such workers being on a piece rate or bonus program. The leather industry is probably next, with a coverage of around 60%. Iron and steel, food products, electrical manufacturing, printing and publishing, machines and machine tools, textiles, metal products, and rubber all have something over 50% coverage with incentives. Possibly the lowest coverage in a major industry today exists in the automotive group. Coverage here is estimated at about 20% of the total employees, and most of this exists in the feeder plants for the large producers. (60% of plants have incentives)

Late in 1946 the Conference Board audited the personnel practices in 3,000 manufacturing plants and found that 54% of them were using incentive plans for their Production and Maintenance employees.

ITEMS INFLUENCING FUTURE TRENDS. Because of the great diversity in condi-

sions, no single or ultra-simple plan can be offered as a solution to increased use of incentives. The company I represent has been deeply and extensively involved in wage incentive matters during the past 36 years. We recently calculated that the companies we have served in that field employ some 3,500,000 people—and currently we are serving clients with over 600,000 employees. Many of the incentive applications we made 20 to 30 years ago are in effect today and in excellent condition. So we may be justified in having some ideas of our own on this subject. One thing we have learned is that there is no one best answer. The art is to know enough about all possible solutions so as to be able to select or create one that applies best to each particular case. We definitely know that good, sound principles are astonishingly durable. In our daily practice we find that basic piece rate, with a high hourly wage guarantee, is acceptable incentive treatment in about 15% to 20% of the operations we have covered. The balance, or the great bulk of the operations, require minor or very substantial modification of the piece work treatment and concepts. Here are some basic considerations that we feel are important, and that apply to present day successful incentive programs and will influence the future trend.

I. There must be a reasonable attitude and a full effort on the part of both management and employees.

II. An incentive plan to be equitable over a period of years which will include wide fluctuations in business levels must rest on a sound basic concept. This concept must give full recognition to the desires of the employee, the company, and the public.

The *employees* want a consistently accurate evaluation of their performance, enough strength in the incentive to be attractive, equitable distribution of their earned extra compensation and high coverage so that all have an opportunity to earn extra pay.

The *company* wants the highest possible production consistent with quality, safety of the employee, and proper control of the process and equipment.

The *public* wants a good product at a fair and reasonable cost.

Appreciation of these concepts by both management and the employees will help the business to remain successful which means to the employee steady employment, good working conditions, and better-than-average wages.

CONCLUSION. As a summary to these remarks, I would like to predict for the future the following five trends in incentive programs as they will relate to production and maintenance employees.

1. Coverage

   In the next 10 years coverage with incentives in industry will increase substantially over the present 50% level. I would expect to see coverage at an average of 60% or more by the year 1962. These gains will come from increased coverage of Maintenance, Indirect and Clerical occupations. The biggest defect faced is that in times of great emergency we have no adequate "quickee" solution to incentives for War or associated production. This might be an acceptable research project for SAM.

2. Basis for Incentives

   Time study will continue to be used as the medium for determining equipment and man performance. In some special instances the use of preestablished standard times for determining the best method and the work involved in the operation will gain increased recognition. Because of improved understanding by company industrial engineers, and the availability of qualified and enlightened professionals for assistance, there will be a general improvement in the design of new incentive applications. There will be improved maintenance and administration of the incentive program of the future over what we have seen in the past. New plans will, in addition, contain substantial guides for an arbitrator to be used where the work standards or the incentive strength is questioned by the employees.

3. Protection of the Employee

   Most employees and union officials agree that since management is responsible for safe working conditions, the quality of the product, the proper operation of equipment, that the responsibility for the development, maintenance and administration of the incentive program should rest with the company. However, they feel that in accepting an incentive program, the worker should have adequate protection and an opportunity to be helpful. Here are some recent requests of union spokesmen:

   a. They would like to be fully informed about the incentive plan before its application, and given the chance to make constructive suggestions.

   b. They want a clear understanding as to the administrative policies that are to be followed, especially as they refer to the changes in incentive rates as conditions are changed.

   c. They would like grievance and arbitration procedure where the plan does not provide adequate incentive compensation or where there is no incentive coverage.

   d. During trial periods, lost time, changes in production, and off standard work, they would like a guarantee of past average earnings.

   e. They would like to have method changes, re-arrangement of work loads, or changes in crew size come as the result of mutual agreement.

   f. In cases where an incentive program is terminated, or replaced by a new one, they would like protection of their earnings prior to such change.

   These demands are bound to have some influence on the future incentive trends.

4. Incentive Strength

   Incentive plans for the future will contain greater incentive strength or a higher payoff ratio whichever way you choose to express it. This is because of union pressure for a higher minimum incentive opportunity and which pressure will be increased as industry continues its drive for technological improvements that take the high effort work and man power out of industry. Another substantial influence will be the 50% payoff rate now in effect for overtime work. Industrial America has long forgotten that this premium was supposed to act as a penalty and deterrent. The practice gained headway during the emergency of World War I. At that time the Chief of Ordnance and Quartermaster General issued the following statement, dated November 15, 1917:

   > "The theory under which we pay time and a half for overtime is a tacit recognition that it is unnecessary and always undesirable to have overtime. The excess payment is a penalty and intended to act as a deterrent. There is no industrial abuse which needs closer watching in time of war."

   In the depression years from 1932-1938, preceding the armament prosperity that had its beginning in 1939, the Federal Government continued to influence a number of conditions of employment. Among these were the maximum hours of work and the penalty for overtime. When the Fair Labor Standards Act was enacted in 1938 it provided that after the second year of its operation a 40-hour week for most of industry would be established and time and a half was to be paid for all time worked over this figure.

   The high penalty for overtime work was conceived to counteract a temporary condition in our economy, but it has remained in effect in these emergency times in the role of an unwelcome boarder. It is out of balance with all wage and incentive concepts. During emergency periods it becomes a pay for "inconvenience" and accordingly should be a flat rate per hour so that all employees are accorded similar treatment. It has become the most costly of all luxuries in our wasteful governmental operation. It has created untold industrial relations problems in industry by consistently making it possible for employees to out-earn their immediate supervision when substantial overtime is necessary. It is now having an undue influence on the strength of incentive programs. I have heard many times in

substance the following remark from an employee:

> **"Why should I work at a high incentive pace and get a 25% bonus when I can loaf and then get a 50% bonus for working overtime?"**

5. **Incentives are Here to Stay**
Incentives based on time study have now been in effect in this country for more than 50 years. They have been singularly successful in uniting the interests of management, employees, and the public, by creating reduced costs of manufacture, increased employee earnings, and lower prices to the consumer. Accordingly, they have been in harmony with our economic and cultural pattern.
I think it is not extravagant to say that incentives are here to stay and the trend for the future will be toward greater coverage with custom designed incentive programs based on sound and durable principles.

DISCUSSION

(The following questions were asked from the audience and answered by the speaker).

QUESTION: For a long time the principle of extra pay for extra effort worked very well when you had manual operations. Now gradually we got into the pushbutton period. That old principle left the machine operators in the position where they don't get extra pay. There came pressure from the unions to receive extra pay. The solution to that has been an arbitrary formula which gives them extra pay without that extra effort. As I see it, we are now creating a new inequity. What comment would you have to make as to the final solution to that problem?

ANSWER: I think you have stated that very well. There is no easy answer to that particular question, a specific answer. I think we can sit here and talk about that all day and night.

What is the objective of an incentive program anyway? I think you get back to that, first of all. Number one, you want to make it possible for the employees to employ themselves gainfully and work at high productivity or operation of the equipment they have. That is part of the incentive objective.

Secondly, you would like to a have a lower cost, from the standpoint of the company. Certainly the increased earnings which come into the picture have a very fine objective. Many companies would like the increased production from the individual presses or equipment which they have. As I studied the picture for many years, I have noticed that during the war period we put a different emphasis on the pay formula. The emphasis is in the direction of getting full utilization from the equipment. In times of depression years, when costs become much more the concern of the management, than they do in emergency times, we feel there has been a tendency to put an emphasis on manpower utilization so that labor or costs would be brought down somewhat.

I think you have to go back to the objectives that you are trying to achieve in your incentive program, and your basic philosophy with those objectives. I would say at one time in the economy, extra pay for extra effort was something that you could live with. Today you can't live with it. We have big equipment today, and there is more and more recognition by union groups, by management and by the professionals in the field that while the manpower performance is important, the attendant costs in large equipment are also important. And those are making themselves felt, as I tried to point out in the paper, that has been the evolution of this thing since the early nineteen hundreds.

QUESTION: Would you care to comment on non-financial incentives?

ANSWER: Non-financial incentives—there again you have quite a problem, and I purposely left it out. We are finding non-financial incentives are increasingly great. You find them in labor contracts today. We looked over a contract not so long ago where the company was paying something like seventy-six cents an hour for fringe issues, in addition to a very high pay level. I saw a folder put out by GE in which they went into rather great detail about the twenty-six fringe issue payments they have. Some of those are financial, I would say, to pay for overtime, shift differentials, things of that kind.

I think we will find, as time goes on, the employee in the plant will want the same treatment that is now taking place in many companies where the deferred compensation programs are going into effect, a form of profit-sharing which is paid off at the period of retirement, which is made very easy by our good government by ways of taxes. I think you are going to find that part of the program gradually seeping into the picture. That, of course, is the most attractive, along with the pension programs.

Of course, pension programs are quite wide-spread, and I think as time goes on we are going to have profit sharing in a deferred compensation way, a way in which we have never seen it before in our plants.

QUESTION: Which do you represent, direct or budgetary standards for plant maintenance workers?

ANSWER: That is a pretty technical question. I think the checking problem you have is the all important one. If you have a small group of five, ten pipe fitters, the checking problem for direct application standards would be quite high, especially if the men were spread over quite a wide area. But normally in line again with our objectives I don't know what you want to get out of the incentive program. If you want to pay people more money I think you can live with budgetary standards but if you want to get higher productivity you have to go into direct standards.

QUESTION: In your forecast of increased coverage, are you including such things as warehousing operations in the field of distribution?

ANSWER: No. These were only figures from manufacturing companies. I would say, however, that in the distribution organizations, that incentive coverage would be quite low. We have covered a number of warehouses with incentive programs. I would say the coverage of warehouse groups is not very high, less than 20% probably.

QUESTION: Does the small plant have an opportunity to use the same system as the big one does?

ANSWER: My answer to that would be this. In our company we cover plants ranging from 45 people up to over 100,000, and we find that probably the most enthusiastic ones are the plants with 100 and less people. They seem to feel that an incentive program, in some respects, absorbs some of the responsibility which management might normally absorb and which they just don't have the money, you might say, and the people who support management. I feel that many of the smaller companies are quite gratified by it. You have a technical problem there, a problem of help also. It is not easy, but I would say there is not much difference.

Automation

By David A. Wallace

President of Chrysler Division, Chrysler Corporation

THE word "Automation" is one which has rocketed into general usage in American industry within the last few years. Today everyone in industry is talking about automation, everyone is thinking about automation, and many are doing something about it. The very rapid spread of the use of this word has led to some confusion as to exactly what it means. I believe that it would be well to pause for a moment and consider definitions. In its original sense, I believe, the word automation was intended to mean—automatic handling of materials and parts in and out of machines. There is no doubt that a certain amount of liberty has been taken with this definition to the point where today in many quarters it has been broadened to include almost anything in the way of automatic handling, processing or machining.

There is another new catch-word growing today—"push-button." We hear it everywhere. We have "push-button" wars, "push-button" airplanes, "push-button" machines and there certainly is a

lot of talk about the "push-button" factory. There seems to be a growing tendency to associate automation with "push-button" operations. I believe, however, we could draw a rather fine line here. I would regard the "push-button" school as referring to automatic control of automatic handling, processing, or machining.

In other words, it appears that we might consider automation as the devices for actually performing the work, while the "push-button" doctrine applies to the instrumentation and controls which govern these devices.

In line with the subject of this discussion, however, it will not be necessary to make any differentiation. The principles which govern the application of either automation or "push-button" operations are fundamentally the same, and unless someone coins another tongue-catching word, the two terms may actually become synonymous.

FACTORS TO CONSIDER. Naturally, in any decision to be made in regard to an expenditure of the type which would be required for an automation system of any kind, the first and most important factor is how much money we can afford to spend. This, naturally, may be influenced by a great many factors, but in the end it is possible for each of us to arrive at a figure which represents fairly accurately the amount of money we feel a particular operation may be entitled to have in relation to the place which it bears in our entire scheme of things. Inasmuch as the type of system required for automation is usually more costly than the ordinary tools to do the work, it may be that a particular process would not warrant the expenditure of enough money to convert it to automation. Naturally, the major factor here may simply turn out to be the total amount of capital which a given company is able to spend at one time. It is obvious that a large company is in a much better position, due to the larger amounts of capital normally available, for this type of expenditure. At any rate, in the case of major tooling at least, I think it is important to compare the cost of the complete setup, with and without automation. This will isolate the amount which would be charged solely to automation, and allow a factual comparison with ordinary operating costs.

Next, there is the matter of production quantities involved. It would appear obvious that in most cases involving short-run, small-lot operations, the cards are stacked against you when considering automation equipment, unless it is of the most highly universal type. Certainly in most cases it would be safe to generalize that the need for, or efficiencies to be gained by, automation would be a direct function of the quantity of production required.

Then there is the consideration of the state of development of the product involved. Is it one which is in wide-spread use in large quantities or which shows promise of continuing in its need or appeal? Is it a comparatively new product which has the possibilities of considerable redesign, or is it a stabilized product approaching the limits of practical design considerations, which may be expected to remain in its present general form for a comparatively long time? Is it closely allied in design to the changing vogues or style or fashion? The possibilities of major design changes are great enough in this latter field to rather militate against automation.

A new design or product which may not be keyed to style or fashion may still enjoy a tremendous wide-spread surge at the beginning of its existence, and then drop considerably before major changes make it ready for the long pull upward. Therefore, the state of development of design of product is an important consideration. I believe, that I may at this point refer with pride to the automation which we have gone into so extensively on our own Chrysler Firepower V-8 Engine, with its hemispherical combustion chamber. It appears to us that this engine is getting very near the limits of practical design consideration for reciprocating internal-combustion engines for automotive use. Therefore, in the immediate future, we see little or no possibility of any major design changes taking place. As a result, we feel that any extra expenditure that may be involved to automate these production lines may be amortized over production for quite some years to come. We may expect minor modifications, but these can be adapted in the existing equipment.

The matter of quality is an interesting factor in making any decision regarding automation. It appears quite certain that a group of machines to which automation has been added will produce a product of more uniform quality, even though no other tooling changes are made. Upon consideration, it will be evident that this is true, inasmuch as the major accomplishment has been to replace the machine operator and his attendant idiosyncrasies with a piece of equipment which will repeat itself with reasonable certainty. A product requiring a very high or uniform quality in volume will justify more elaborate automation. A product whose quality is low or one in which standards of uniformity are low is not as apt to be produced with greater over-all efficiency on automated equipment and tools. In many cases where quality standards are particularly difficult, it will be found that automation is the best solution to maintaining such standards in high production over a long period of time. Again, the experiences we have had with our Chrysler Firepower Engine have proved the effectiveness of this.

The details of product design also become important factors. The success of automation at an efficient cost will be affected by the characteristics of locating points. On a part such as a cylinder block or cylinder head of an automobile engine, where it is possible to have a bare minimum of locating points, each of which is an accurately machined surface, we are allowed the greatest simplicity in design of automation equipment. Conversely, a large piece of sheet metal, such as a fender or a body stamping, in many cases, will require location on an entire surface rather than simply a point or two, greatly increasing the problems involved. There are many successful examples of automation on sheet metal parts, in spite of the general tendency of this type of part to provide poor locations. However, I believe the justification of these examples was found more in the production rates involved. I feel safe in generalizing to this extent: the accuracy, simplicity and quantity of locating points is an important factor in a decision involving automation.

Briefly also, the physical dimensions of the pieces involved must be considered. Obviously, equipment for automation in the manufacture of a smaller piece, disregarding all other considerations, can be much more simply and inexpensively designed.

It is also necessary to consider the type of tooling or process for which automation may be considered. If the piece involved is to be operated on from one side only, or if the major portion is always available for holding, less difficult problems will be encountered than in a "put-down" and "pick-up" type of operation. If a straight pass through may be made, many problems are simplified. The modern large transfer-type equipment now seen in so many machining plants is a good example of this. Also, the machinery involved may be heavy duty or light duty, thus dictating a heavy or light duty type of automation, which factor might have a material effect on the cost.

Space requirements and factory layout may become of prime consideration. There is a little doubt that considerable space saving can be effected with the use of a properly designed automation system. I point out that this is very important where space is at a premium. However, should ample space be available, and if no other productive operation can be added into the vacated space, it is possible that the increased cost of automation may not provide such substantial savings as might appear in the first analysis.

The use of potentially productive industrial areas for warehousing or vacant space is a mighty expensive proposition. This might be balanced against the cost of equipment if no additional work can be brought in to fill the space. On the other side of the picture, the space savings can sometimes be startling. Again I quite an example from our own experience. About two years ago in our machine shop, we were building both six-cylinder engines and straight eight engines and the area was well filled from a productive point of view. As a result of decisions made involving the build-up of produc-

tion of our Firepower engine, it was necessary to continue production on the straight eight-engine right up to the end of a car model. It was also vitally important during the declining months of production on this model to begin operations on the new engine in such quantities that at the start of the new model, about two weeks later, it would be possible to completely replace all of the straight eights in production. During this entire period, six-cylinder production was to be maintained at scheduled rates.

That we were able to accomplish this successfully was due in the greatest part to the space efficiencies that were possible with the modern transfer-type machinery that was installed on our new engine lines. After the old straight eight production had ceased, and the machinery was moved out, production was moved up rapidly on the new engine until at the present time, in the same space previously occupied, we now have capacity for over 500% more eight-cylinder engines than previously. In addition to this, we have increased the productive capacity of the six-cylinder engines about 15%. The area is no more congested now than it was previously. These are startling figures, and they speak highly for the space efficiency that may be gained through automation.

It is quite important in this day of rapidly changing labor skills to consider the personnel factor. Yes, productive manpower will be saved, less semi-skilled labor will be used in the operations; but, does the labor area in which the operation is located provide sufficient capacity in the skilled trades to take care of the definite increase in maintenance load caused by this equipment? Are there electricians? Are there millwrights and machine repairmen available for hire? The tremendous industrial boom which has been going on in this country almost without halt since the beginning of World War II has drained the pool of skilled labor almost to the extinction point in some areas. So, to me, it is conceivable that in some cases where all of the other factors would point to an affirmative decision on automation, it might be necessary to hold off until there was some assurance that the necessary skilled labor could be trained.

So far, most of the things which I have discussed have been affirmative factors—that is, things which should be put on the balance and weighed to determine how much effect they will have on a decision. But I do want to add one other item which I would call a negative factor. The satisfaction of personal ego has absolutely nothing to do with the determination of whether you should install automation in any particular place. The manufacturing business is a cold-blooded, hard-fighting business and there is no room in it for "keeping up with the Joneses," or doing things merely so that you can say you have done them. I do not say this as an idle thought. I know of places where automation has been installed for no earthly reason than that the owner or manager just simply wanted it. In terms of the amount of capital we have been accustomed to using, automation is usually expensive, and unless the decision is made on facts rather than feelings, it could have serious financial consequences if applied too strongly in the wrong places.

PROBLEMS TO CONSIDER. In addition to the factors which must be considered in determining whether a particular operation or group of operations may be automated economically, it is well to pause and consider the long and short range effects which this will have in your organization. As mentioned previously, it is important to stop and consider whether properly skilled help is available for the maintenance of such equipment. It follows automatically from this, that once such equipment is installed the composition of the working force begins to undergo a change caused by the presence of less semi-skilled labor and more skilled labor. Drawing this out to its ultimate conclusion, in the so-called automatic factory, there would be actually no productive labor used. The entire working force would be composed of what most of us now consider non-productive labor; that is, maintenance personnel, technical specialists, etc. Naturally, this condition is not a matter of immediate concern, however, it is well to point out that each move in the direction of automation or "push-button" operation leads us further in that direction. Undoubtedly, there are problems present in this gradual reorganization already taking place which we do not yet see. I can, for example, see no reason why we may expect any decrease in labor problems for this reason alone. I am aware that in some cases an argument in favor of automatic equipment is that it would decrease labor difficulties. This may be true from an individual standpoint, but considered in relation to the whole problem, it appears to be mostly a matter of these problems changing rather than disappearing.

Certainly the administration of large groups of skilled labor will involve all of the problems of handling semi-skilled labor and possibly more. Many organizations have already found it necessary to institute training programs of their own, due to the scarcity of skilled labor in the classifications necessary. So it is reasonable to presume that something along these lines may have to be done. The smaller organization might find it very difficult to cope with such a problem.

Probably the most regularly used argument in favor of automation is that the amount of productive labor is decreased. While there is no doubt that in many cases this decrease may be quite outstanding, it is important to stop and consider that there certainly will be increases necessary in non-productive labor. Standards of maintenance which were adequate for single tooling no longer approach efficiency when five, ten or twenty machines are tied together. Let us assume that down time for all reasons with single equipment might reasonably be considered supportable if it did not exceed about five per cent of the available productive time. I believe this figure is a reasonable one. This would take care of the occasional breakdown as well as tool changing, machine adjustment, oil changing and the personal factor.

Now, let us assume that 20 machines are tied together with transfer-type equipment, such that no operators are necessary for any of the individual 20 machines. It is readily apparent from this that if conditions ever reach their worse expected probabilities, this theoretical transfer machine could be non-productive up to 100% of the time if the same maintenance standards are accepted.

Obviously this is merely a statistical figure as it would be a simple matter to double-up, triple-up, or even more, on many of these down time items such as tool changing, etc. However, when all of the possibilities for doubling-up have been expended, the amount of down time on this type equipment may still be in excess of 50%. I know that this is a fact because we have experienced it, as have many others. So the only way to keep this machine in efficient operating condition is to find the necessary means to reduce the over-all down time back to a figure not too far different from the original five per cent. This can be accomplished only by the application of the most rigorous standards of maintenance. As a matter of fact, it appears almost impossible to accomplish this without the application of preventative maintenance methods, and even these preventative methods must be more rigid than those which are normally used with single operation machines and equipment. As a result of all this, it is very possible that the total increase in non-productive labor may easily be greater than the productive labor saved. This is also a fact which has been proved on many occasions.

It is important to remember also that it is not reasonable to compare productive labor with this type of non-productive labor in terms of physical numbers alone. Non-productive labor in the classifications employed for this type of work invariably command a wage premium well above that of semi-skilled productive labor. As a result, the cost of operating this type of equipment rises very rapidly, depending on the efficiency of the maintenance force. It certainly is not uncommon for the non-productive labor costs to equal or surpass the productive labor savings at least in the initial, or break-in, stages of this type of equipment. Some plants which have installed this type of equipment use burden rates as high as 800% as the percentage of their equipment charges and the degree of automation becomes high. I do not mean to indicate that an 800% burden rate is an unsatis-

factory condition. Rather, I feel that it is the most healthy approach to the problem, and indicates their degree of conversion rather than their inefficiency. But it does indicate the amount of non-productive labor which is necessary to keep such equipment in efficient operating condition. So if a decision is made in favor of automation, the personnel problems involved as well as the development of suitable maintenance methods must be faced.

TWO TYPES OF AUTOMATION. In considering the various types of automation with which you may become involved, I would consider that there are, generally speaking, two main types. I would call these the multiple operation type and the single operation type. In order to make it clear, I would like to briefly describe an example of each type among the many examples we have installed in the Chrysler plant.

The first example is of the multiple operation type and might be called the classic textbook example of multiple station transfer equipment as now being installed all over the country. This particular equipment is used to machine all of the holes in the top and both cylinder head faces of our V-8 cylinder block. It is a 32-station machine with three-way heads and both vertical and angular units. These stations consist of 1 loading station, 11 machining stations, 3 roll over stations, 15 idle stations, 1 automatic gauging station, and 1 unloading station, plus a chip conveyor.

The three "roll over" stations were incorporated in this setup in order to remove chips from the holes and from the valve lifter chamber. This is necessary to afford proper clearance for the necessary bushing plates used in following operations. The automatic gauging station detects holes that are improperly drilled for depth and also detects broken drills. In either case the machine is automatically stopped and a panel of electric lights (one light for each hole being checked) enables the operator to determine the exact location of the trouble. The 11 machining stations perform 198 operations on the three faces previously mentioned. Each machining station is a complete self-contained machine having an independent electrical panel and work transfer-bar. All eleven machines are wired into one main electrical control panel, but may be operated individually if necessary.

It may appear that there are an excessive number of idle stations. This was purposely done to provide sufficient space between stations to enable better tool changing, machine maintenance, gauging, and to permit the removal of work for various reasons.

Underneath this machine, which is approximately 21 feet wide and 90 feet long, is a chip conveyor carrying the chips to one end of the machine and into a main underground chip disposal system. It is important to point out that we consider this chip disposal system as part of the automation, the maintenance would be considerably higher without it.

The second example is of the single operation type and is a welding machine to spotweld the body rear quarter panel assembly complete. This machine operates on two phases to reduce the duty cycles per phase. This is due to the large current demand of 112 welding guns. Two sets of contactors and ignitrons are necessary to accommodate the two phases.

The total machine time is 13 seconds. The total welding time equals one and three-fourths seconds, or .025 seconds per spot. During one complete cycle of this machine, there are over one hundred different movements of relays, valves, contactors, limit switches and other control devices all taking place in the elapsed time of 13 seconds. If a malfunction occurs anytime during the operation, the operator need only press the reverse button. Actuating this one button cuts off transformer power and causes return of the cycle in reverse sequence.

The operator control panel contains a manual selector switch which allows an operator to run the machine through a partial cycle. This feature is especially important during the set up and tryout and servicing of the machine. The operator control panel also contains pilot lights which indicate the progress of the machine cycle. This aids in diagnosing malfunctions.

To operate this machine, a fixture is loaded which indexes automatically into the welder, at the completion of the welding cycle, the fixture indexes out for unloading. A complicated fixture is necessary due to the complexity of the locating spots. Prior to multiple transformer type welding, the total firing of six guns would have taken the same time as the one hundred twelve guns do today—thus, achieving an efficiency increase in actual welding time of about 94%. However, total machine cycles average eight to nine seconds for most efficient production today, compared to previous time of about 30 seconds for comparable operations. Thus an over-all efficiency gain in the machine cycle of about 70% is effected.

These two examples are presented to illustrate the application of the principles I have discussed and to illustrate some of the points of finer detail in the design of machines and equipment.

DESIGN ASPECTS. Up to now this job of machine and equipment design has been done, and unquestionably well done, for the most part, by mechanical men. That is to say that it has been the master mechanics and tool engineers who have carried a large share of the responsibility for the original designs. Needless to say, much has also been accomplished by graduate engineers and machine designers. However, I believe it is reasonable to say that the biggest part of the actual design has been accomplished by the practical machine and experienced tool designers. It is important, therefore, that the universities should incorporate training in the design of automation equipment along with their regular machine design courses, if they have not already done so. The entire matter of tool, fixture and die design is one which could be weighed more heavily in university engineering curricula. In end product design, it is standard practice to build pilot models, but the tool designer is facing pretty much of a "one-shot" design job. He cannot afford to make mistakes, therefore, we must do everything possible to improve his skills.

There is still another and I believe an equally important place where large improvements and efficiencies can be gained. This is in the design of the parts themselves. Again we find the technical men, as opposed to engineers doing the actual design work. In many cases, these men have little acquaintance with refinements in the manufacturing process. It will be a long process of education with the draftsmen and designers to have them appreciate the possibilities of automation equipment in the design of the end products and their components. I believe, therefore, that it is very important that suitable indoctrination in automation be given to all engineering graduates so that we may begin to develop a pool of trained engineer-designers who are aware of the possibilities of automation.

CONCLUSION. It appears quite clear that the "push-button" world is coming. I have tried to give the impression that it is not just around the corner, but rather it is a long way ahead up the road, and the road is up-hill all the way. There is no doubt that a completely automatic factory to build complete automobiles, or anything else, could be designed on paper today. With our present state of technological development, it appears quite clear, however, that building this plant and getting it to work would not be possible, and will not be for many years to come.

I have recently read a description of an automatic milling machine which has been designed and built at the Massachusetts Institute of Technology. It is simply a standard everyday variety of multi-purpose milling machine to which has been added the necessary electrical, mechanical and electronic controls to allow it to operate as a completely automatic machine from a punched tape. This equipment is in the most primary stages of development. It is the first crude effort in the direction of fully automatic controls for this type of equipment and represents hundreds of thousands of dollars of actual material expenditure in building.

Another factor which we must consider in this day and age is what has been called by some of our government experts as the "efficient utilization of the national product." This sounds very

grand, but it reduces itself to just this—the amount of labor available for the construction of industrial tooling and equipment is now at an all-time high. The amount of materials being expended for this purpose is almost as great as all of the end products which are being produced. In many cases, material and labor wanted and needed for end products is not available due to a greater need for building productive capacity. Therefore, we must approach with great caution the unconsidered expenditure of any of this type of material or labor. We must be sure that it meets the qualifications for efficient usage, not only because of our own pocketbooks, but also because if we use it inefficiently, we subtract that much more from what is available to those who might use it efficiently.

Automation is a complex problem for management. Each setup presents a different problem and requires a product of volume, a product with continuous volume sales that will continue over such a period of time as will easily liquidate the investment, a product that will have a minimum of design changes or changes that may be easily incorporated into the automatic equipment. The mechanical setup must have the whole-hearted support of the management, engineers, supervision and the mechanical force responsible for the design and operation, and who, by long experience, can anticipate and make provision for possible unknown factors. Once the die is cast and the automation unit built, it must function. There is no pilot model and there will not be an opportunity to change your mind and correct problems that were not foreseen except at great expense of money and time.

So I want to strip the glamour from automation and get down to bedrock fundamentals. Forget about your ego and get all the facts to make a truly intelligent decision. Automation is a great step forward, and will provide increasing benefits to each of us individually and the country as a whole. But, the world goes on. There are payrolls to meet and bills to pay, and there are many more problems in automation than might appear at first glance. So move carefully and feel your ground in order to get the maximum benefits, and the minimum detriments in the compromises that will most certainly be made.

DISCUSSION

(The following questions were asked from the audience and answered by the speaker).

QUESTION: Is there a practical limit to automation? If so, what does that seem to be?

ANSWER: It is limited to the amount of money you have in the first place. The next limit is your product. Are you going to be able to sell it next year, and the next year, or will you have to redesign your product because people don't want to buy it any more. You have to be sure that in automation you have a long time product. Otherwise you can't afford the investment.

QUESTION: I would like to ask about the labor problems that arise?

ANSWER: Labor likes it. They don't have to work so hard, and they get more money. There is a lot of conversation about automation, but a man would rather use a machine than work with his hands. You can't fire a lot of people and put in automation. You simply have to increase your business and keep them all on and pay them more money. That is the way to solve that problem.

QUESTION: Over how many years do you write off some of these major investments and equipment in your particular industry?

ANSWER: Well, generally speaking automation has to pay for itself in two years because designs change too quickly, even with our design. Now remember when you get into automation, the machine itself isn't automation. It is the apparatus between the machines and the tools. The machines are pretty much the same machines.

LABOR TRENDS

BRUCE PAYNE, Chairman
President, Bruce Payne & Associates, Inc.

Labor Trends

By Cyrus Ching
Former Director, Federal Mediation Board

OPENING REMARKS BY CHAIRMAN PAYNE. Everyone of you, I know, knows of the work that Cyrus Ching has done, particularly as Director of the Federal Mediation and Conciliation Service. Mr. Ching wanted to make this an informal discussion with questions from the floor. I think that we are very fortunate to have such able counsel to give us answers to your questions.

ORIGINALLY, this was supposed to be a panel discussion. I think there were five people on the panel originally, and none of them would serve with me, so I said, "all right, if that's the way you feel about government bureaucrats or ex-government bureaucrats, I will come by myself, and we will have a question-and-answer period from the one-man panel to the audience."

I would like to hear some questions right now from the floor, and that would start me off.

QUESTION: I would like to ask something on the coal settlement that seems to be coming along.

ANSWER: You have a mixture there, a mixture of government and very sophisticated people on both sides plus a little mixture of politics.

I think it was quite evident to everybody that there was very much energy, time, and thought put in trying to work out this settlement by Lewis and the coal operators. Out of it came this $1.90 a day.

I haven't any comment to make about that, whether it is right or wrong, other than a general comment. I will not go into a coal mine if they gave me the mine, so I am not unsympathetic to anything that will increase the compensation of coal miners.

The Wage Stabilization Board had their session and decided on $1.50. At the time, Mr. Putman the Director, came out and made a statement—a very courageous and statesman-like action. I assume no conversations will be held until after next Tuesday and then we will see.

QUESTION: Mr. Ching, do you think that Dave Cole will follow your broad principles and policies as you have established them over the years?

ANSWER: I hope so. I don't know that my policies are good, but I think Dave Cole is one of the most experienced men we have in this country to handle the Mediation Service.

It may have been apparent to some people over a period of months and years that I was looking for an opportunity to get out. My own thinking in regard to the matter was that I did not want to see this job become political. I know it won't become political with Dave Cole there. Whether it will become political after January 20, 1953 or not, I don't know and I haven't any way of knowing, but I sincerely hope that Dave Cole will be kept on as Director of the Mediation Service.

Dave has had a lot of experience and will doubtlessly have some changes and ideas about this thing. He will probably carry it further than I would have done, but I was very proud of the Mediation Service as we were able to get organized in the last five years. I got a lot of satisfaction out of it, and I think so far as the public is concerned, so far as industry and labor are concerned, you will find that Dave Cole will go right down the middle of the road.

QUESTION: In a large corporation, it is most difficult to get our attitude across to employees in trying to be honest with them or counteract the influence of organized labor. How can we get our people, or how can we put across to our people in the best and quickest way our honest feeling to them and about them?

ANSWER: The questi n is, how is it possible for a corporation to get across its honest feeling where you have a union putting out certain information to employees?

I am glad the word "honest" was put in there because, if you are not honest about it, you will never put it across. That is a long, hard road. I think that if the same methods were used by corporations in selling their ideas to employees that they use in selling their products to the consumers, that there would be a lot more progress made.

Certainly, if you call on a purchasing agent and the purchasing agent refused to buy your product the first time, you don't go out and advertise in newspapers your opinion of him. Occasionally that happens in labor relations. After management makes a statement to employees, it makes or may make a statement in the newspapers otherwise and the employees accept it right away, and the union then puts out some kind of a statement, and you go on from there. You get a silly controversy going on very frequently in the columns of newspapers over these labor matters that should be handled at home and within the plant.

Now, the one thing that is absolutely necessary to have employees listen is to have all your supervisors as much sold on the company as the man who is issuing the statement to the employees. The thing that influences the employee is how he is treated every day by the man who is supervising him, the man who represents management. If that supervisor is talking about the company being a pretty horrible place to work in, then anything that is said from the top will not help the situation at all.

I think we have kidded ourselves a long time on this matter of supervision. We have talked about foremen and supervision being a part of management. We have not treated them that way at all. They haven't been a part of management.

When you say a person is a part of management they, to some extent, should have something to say and participate in some way in making the policies of the management, but we don't do it that way. We tell the foreman this is the way he performs, get the production out, and he, in turn, is called a part of management. He sees many times that the people working for him get more money and have better conditions than he has, and you cannot get any idea of management across to a group of employees if you have that kind of situation existing. After all, they are your salesmen as regards the idea you are trying to get across.

I think, therefore, one answer is changing your attitude and seeing what can be done within a company by honest effort in dealing with the two types of relationships that exist. One is the relationship that exists between the management and the union and its negotiating officers, the other relationship is between your supervision and the employees.

Now, if you are successful, and it is a long frustrating job, in establishing the right relations along the line, you will frequently get a better type of union leadership.

I think some of the union leadership we have today, some of the bad union leadership in many industries, is the result of management's attitude in the past or at the present time. If you have a militant management, and they want to fight, you will get a fighting union. If you have a cooperative management over a period of years, I think you will get more cooperation and you will get that type of people in that union.

QUESTION: Is there any solution to the labor problem?

ANSWER: No, I don't think we have any. I think what we have here is a wonderful opportunity to get a lot of satisfaction, making very substantial contributions to our own peace of mind and to the welfare of a lot of people by trying to find a solution. You never will, but keep on trying because it is very satisfying.

There is not too much in the way of labor disturbances in this country right now. There hasn't been for quite some time. Threats, of course, for the threat of a strike is the most powerful weapon there is in collective bargaining. It is much more powerful as a threat than it is when it is exercised. We have about three hundred thousand labor agreements in this country and nobody pays much attention to them. They go on, negotiations are carried on and it never gets into the newspapers. Then, when a strike breaks out somewhere, of course, that is news, and everybody says that strikes are overrunning the country and it is an awful mess.

I think there are certain things in connection with labor that should be watched very closely. You have the large nationwide industrial unions as the rubber workers, electrical workers, etc. They pick out the top concerns in their industry to negotiate with. Now, it may be that because of large investments of capital, etc. some of the bigger companies may be able to absorb a part of this wage increase and so they sign up. Then they go to the 2000 or 2500 steel fabricators throughout the country, and put that same contract out in front of them and say, "You do the same exactly as U. S. Steel did." That is pretty rough and I think that many of your smaller concerns are finding it quite embarrassing to meet the demands of the unions. There is a lot of that, more than many people realize. That sort of labor policy would eventually make it harder for the small business man to get along. I think that will be one of the most terrible things that could happen to this country, to make it harder for the small business man to get along. I think that that is one of the things we should be thinking about.

QUESTION: What is your feeling about having labor participate in the creation of management policy? Should the final responsibility in negotiation be in the hands of the company president?

ANSWER: Well, I don't think you can answer either one of those questions. I will take the last one first.

Doubtless, the company president is the fellow who is going to make the decision whether you give or don't give, and whether you are going to take a strike or not.

In some companies I know, the president of the company sits in labor negotiations right along. However, it depends entirely on the circumstances.

On the other question about labor participating in management policies, several years ago before World War Two, I was quite interested in that from another angle. Then we had WLB, and someone said labor-management committees were a good thing. Quite a campaign was started, and a lot of labor-management committees were established, but they didn't last very long after the war pressure was removed.

I do not think that any company is carrying out its responsibility if it delegates any management functions to labor because there are certain functions inherent in management. I don't like to talk about management prerogatives, that is not the way to stress it. There are management functions and there are certain labor functions to be carried out.

Now, as to the extent of labor and management interchanging ideas and getting ideas from each other, ideas on how to best perform their functions, that is good and I think you can go pretty far with that. Yet, the final decision as to what the unions will do must rest with the union officers, and what the company shall do must rest with the management if management is to carrying out its functions.

QUESTION: What is your opinion of gearing wages to a cost-of-living index? Is there a trend towards the cost-of-living clause such as the General Motors' clause, and, if so, will this method reduce strikes?

ANSWER: No, I don't think so. You talk about trends and it is hard to know what starts a trend. Some company does something, it works rather successfully and it looks to be a good thing from the viewpoint of organized labor, or from the viewpoint of management, and a lot of other companies do it too.

It is possible that General Motors' kicked off this recent recognition of the cost-of-living escalator clause. There is nothing new about that. Standard Oil of

New Jersey, had escalator clauses and the wage policy geared to the cost-of-living, I think, in about 1920. Some other companies in the 1920's had a cost-of-living escalator clause.

When you reach the place where the cost of living is no longer going up, and it is going the other way, then you will be confronted with the demands on the part of unions to establish your floor higher and you will not roll back the wages if the cost of living decreases, but you will stop somewhere along there. I think that is what is going to happen, and, when the cost of living is leveled off and on the downgrade, you will not have a demand for cost of living clauses and then we will go back to what happened about 30 years ago.

As far as General Motors is concerned, and possibly many of the others, the General Motors contract was one of the soundest, thorough, and scientifically analyzed contracts that I know. General Motors has gone into this very thoroughly, and they decided on certain things they wanted to do. One was to get a long-term contract. The other was assurance that these controversies would not come up every six months in negotiations, and, also, the recognition of the fact that the workers in the country were entitled to a share in increased productivity.

I think it is an excellent contract and I think they should be proud of it. They have a stability in employment there which, of course, always spells increased production.

I think you will always find the trend upwards in wages whether the cost of living goes up or not. I think it is another way of finding the answers, and I would rather suspect it is not anything that will be retained as something on which we base our wages in the future when the cost of living stops going up.

QUESTION: Mr. Ching, I understand you were the first Director of Industrial Relations in the United States, Is this true? How did you happen to get into this field of work?

ANSWER: If you really want to know, I started life in Boston in front of a street car, and I didn't care for the way management was working at the time. Finally, I found myself in the hospital one day and nobody came to see me and nobody seemed to care about whether I came out of the hospital or not. I went back to work for the company, and I finally got into the management field. I was assistant to the president on labor relations for several years.

The reason I got into labor relations was the company had a very bad strike. The people who talked most loudly about a strike, and what they would do when the time came to sit down with the boys after they had won the strike seemed to be afraid to do it. I was the poor, ignorant boy from the country, and I told them I would meet with the union and represent the company if that is what they wanted me to do. I got in that way without knowing anything about it. I stayed in that field and went on from there.

QUESTION: Would you comment on the union's request to reopen the General Motors contract? Can we assume from this that long-term contracts are somewhat futile?

ANSWER: I wouldn't say so. I would say that in the case of General Motors, I don't know what they are going to do. The reopening request comes because of the fear of a decrease in the cost of living and a desire on the part of the United Automobile Workers Union to get the floor up, so they don't sink so low if the cost of living goes down.

QUESTION: Is it your experience that management representatives or labor representatives are better prepared today for negotiations?

ANSWER: Labor is always better prepared in negotiations by experience. They know what they want and, by gosh, sometimes they know more about the company than the management representatives do when they come in.

Management representatives are much more emotional than labor representatives. The labor fellows have been through that enough so they have sort of cooled down, but I think that is one thing that the management people have to learn. They have to be better prepared. I don't mean prepared with a lot of figures that attempt to prove conclusions already arrived at or anything of that sort, but I mean really prepared and thinking in terms of the consequences of this action or that action. What will happen if we have a strike? How long can we take a strike?

I will give you an illustration of something that happened in a plant within the last few years. The wages were well up with community rates and the union had requested a reopening clause in six months. They were willing to sign the present agreement with the reopening clause, and the management said, "Not on your life; we are not going through that; we will sign a contract, take it or leave it, for a year."

Well, the union struck and they had been out for quite some time. The management had not projected themselves into this era at all in their thinking and after the union was out—the strike had been going on for sometime—the management began to wonder what they could do. The vice-president of this company called me up and asked what to do about the strike and how to get it settled. I asked what he had to offer, and to give me some ideas of what he would be willing to do so we could find out what the union would be willing to do, and we might reach a settlement. He said, "Well, I'll tell you right off the bat what we are willing to do. We are willing to give them ten cents an hour now, five cents an hour in February (this was around August) and a reopening clause every six months." I said, "Well, I think that should do the trick." I called up the union and told them that the company was really ready to move, and asked the lowest figure the union would settle for. By that time, the union was pretty cocky and that is what they settled for.

Just think what a fantastic situation this was. The company could have settled the previous August for a reopening clause, and that wouldn't have cost them anything. The strike cost them 15 cents and a lot of bad blood in the meantime, and it is going to be difficult for them to get along with that union.

When I say management is not as well prepared to come into negotiations, it is just along those lines. They don't think in terms of what is going to happen next week or two weeks from now or something of that sort.

QUESTION: Is there any likelihood of a trend away from industry-wide bargaining? Would such a trend provide the key to minimize the emergency situation created by nation-wide strikes? Do you believe in industry-wide bargaining on a closed-shop basis? If your reply is "yes," what happens to the small business operator? Do you believe industry-wide strikes should be restricted and if so, how?

ANSWER: I don't think there is any trend away from industry-wide bargaining. We don't have industry-wide bargaining today, but we have all the evils of it. I don't know if there are any advantages to it or not.

I think it was in February, 1946, I went on record and made a speech on industry-wide bargaining and I feel exactly the same now as I did then. If we conduct all of our bargaining on an industry-wide basis in this country, establish industry-wide bargaining for all the industries, we would do a whole lot of damage to the economic system.

I think that that is part of what happened in Great Britain. I think that it led to part of their difficulties. You can take away the incentive for small business, and take away the incentive for large business to go ahead. I think industry-wide bargaining is bad, but how to get away from what we have, I don't know.

I think that whatever is done to cure this situation or to find some remedies should be something that would be aimed at giving the public the most information as possible and then let public opinion take its course. When I talk about public opinion, I am talking about the employees' families and all other people in the communities which are affected, etc.

QUESTION: What procedure do you recognize for a company to follow during a union organization drive and still stay within the bounds of the Wagner and Taft-Hartley Acts?

ANSWER: I am one of those that believe that collective bargaining with full respect to responsibility by labor and management is probably as good a way as we can have to handle our labor relations.

I think we are going to have more and more union organization. That may be good; it may be bad. The difficulty is that when a union starts to organize and the employer is antagonistic, there is a lot to be lived down in that plant, when the plant is organized.

I have seen a good many of the contracts that came out of that kind of situation. When you get one of these contracts you can tell about what stage in the development of relationships the company and the union are in just by reading it over. In these contracts are all the fears and suspicions of each side. There is little said about means of establishing better relations.

It is a bad way to start. I think if management is smart enough to manage, they should be smart enough to manage if they have a labor organization.

Now, I don't believe management should go out and encourage labor organizations, but I think if there is a pretty good chance of a union coming into a plant, into the industry, that for the future relationship it is better for management to say, "All right, we can manage this plant; we have done it before and we can do it again. The majority of the employees want a union, all right, go ahead boys and join the union."

You may keep a union down once, the second time, the third time and the fourth time, but eventually you will get a union. All the time you are building up a lot of hate and creating a lot of scars which is very bad when you are trying to establish good relationship in the future.

QUESTION: What are your feelings toward the Taft-Hartley Law? Is it, unfair to labor?

ANSWER: Number one, I don't think that the law is half as good as industry thinks it is. I don't think it is half as bad as labor says it is.

There are certain things in it which did not take into consideration the practical aspects of our labor relationships in this country and how these relationships developed over a period of years. I think it did attempt to destroy relationships that existed a long, long time.

I think that possibly there was enough in the way of testimony presented to the legislative committee for the government at that time to indicate that there needed to be some immediate legislation to cure some of the evils and abuses in the closed shop.

There is another provision in the Taft-Hartley Act, a submission of a last offer of an employer to his employees. The law provides that after the injunction is issued, the parties shall negotiate and that at the end of 60 days, the National Labor Relations Board shall submit the last offer of the employer to the employees for a vote.

I think this provision is predicated on the wrong theory. It is predicated on the theory that employees are the ones that want to avoid strikes and the union officials are the people who are calling them and I think the reverse is true in a lot of instances. I think the people in the plants get on their high horse and push the leaders many times into a strike situation and I have seen it happen.

Now, what we are going to have, I don't know. I do have this suggestion to make. I think that we should have a committee of citizens, possibly some from the legislative branch and some from the administrative branch of the government together with maybe half a dozen citizens who would make a complete study of what we have in the statute books in the labor field. Then give it another name because the Taft-Hartley Act has reached the stage now where it is a nasty word.

I think there are many of things in this law that can be incorporated under another name and would be highly acceptable to everybody.

QUESTION: In the event of a Republican administration in Washington, what changes would you expect on the labor front, especially with respect to wage controls.

ANSWER: Well, my experience leads me to believe that the Republicans like a labor vote just as well as the Democrats do. I don't look for any great changes on laws or actions on the part of a new administration. Now, so far as the controls are concerned, without something happening between now and June 30, I think wage and price controls should be out the window.

I don't believe that steel wages would be as high probably, or any higher, and I do not think steel prices would be any higher, if we had never had controls.

QUESTION: Mr. Ching, is it your opinion that there is a controlled labor vote?

ANSWER: I think there is a control of the labor vote. I think every member of every union controls his own vote, and I think we have had some good demonstrations of that in this country.

I remember in 1940, when John Lewis came out and declared for Willkie. If you analyze the vote in the coal mining areas, you would see there were very few votes cast for Willkie.

When a labor leader comes out and tells the union they should vote so and so, I think it is an incentive to vote the other way. I think the endorsement of labor organizations of candidates, which is a much sought after, does not mean a thing politically. However, if a certain candidate has a program that appeals to the members of labor groups, of course they will vote that way, and the leaders will get credit for having influenced them to vote that way. I don't think the endorsement of these candidates means nearly as much as people think it does.

QUESTION: Certain of our unions are reputed to be communist led. Would you care to comment on this?

ANSWER: I think that is a fair statement. I think there are unions in this country that are communist led. I don't think they can go too far, however, without their membership checking up on them.

As you well know, there have been a number of legislative hearings with different opinions expressed by people as to how to handle this difficult problem. It is a difficult thing to enact legislation that will protect the freedom of other people, and aim it at that type of union in any effective sort of a way. I think that the best answer and the best job can be done by these labor unions themselves. The C.I.O. has done an excellent job in cleaning communists out of the C.I.O. The A.F.L. has done a similarly good job, and I think that the trade unions can handle this thing pretty effectively themselves.

QUESTION: Mr. Ching, could you elaborate just a moment on what is happening today in the textile industry?

ANSWER: The great difficulty in the textile industry is they have more manufacturing facilities than they have markets, and prices have gone too high.

The textile industry has always been an industry of feast or famine and, for the last several years, it has been pretty tough going. I don't know that you can blame labor anymore than you can blame management. Maybe you can blame it on the consumer for not being willing to pay a higher price, but the textile industry has generally meant woolens and cottons, and we forget what is happening in the textile industry because rayons and nylons have come in, and that is a large part of the trouble.

One of the things the textile industry encountered—I don't think they are suffering it now though—was the thing that so many other industries encountered. They go along making some money, go along fairly well, slipping a little bit at times but they don't do much about it, and they keep going along. All at once, some day, they face up to it, and finally they cannot pay dividends and people begin to wonder what happened.

That condition goes for stockholders, and they say I guess you had better get a new management. New management comes in and the new management has to go out and do the things that should have been gradually done over a period of 15 years, and they have to do it in a period of 15 months, and it causes labor troubles and all kinds of difficulties.

I was talking with Myron Clark just now, and he was remembering something I said 25 years ago in New Haven. The

most important problem that management faces is to keep their whole organization change-minded. That is, change for the sake of changing, and having your organization change-minded is worth doing even if you do not gain too much.

QUESTION: How can unfair wage incentive rates, "unfair to management," be corrected without upsetting labor relations? How can wage incentives be made more acceptable to unions and still preserve the principle of increased earnings for increased efforts?

ANSWER: Well, the first question, I think, is one that is disturbing a lot of people and rightfully so.

I have seen some managements, when trouble came up about a piece rate or an incentive rate, make concessions there to cure something over here. In other words, many times concessions are made on wage rates to cure one grievance in one part of the plant, when the grievance should be cured over here because it will rise up and haunt you anyway eventually. When you get wage rates out of line, then you do have a pretty bad situation in the plant and it is, of course, not only upsetting to the management but also upsetting to a lot of employees.

For example, at times we met to change some of the rates that got out of line with the Rubber Workers Union. I think every person in this room agrees if we are going to maintain our position in the world, and, if we are going to keep our standards of living where they are today, it must come about by a greater output of man. That means technological improvements and people working and putting in more effort than they do in many cases today.

I assume a lot of the resentment to the incentive system and technological improvements have come as a result of people being thrown out of work. Now, you can talk to labor organizations, men well up in labor and they all agree on this.

Stop to consider, for example, if you have an operation of 100 men and you put in a new machine, and 20 of those men are out and, therefore, you are only going to use 80 men. Who benefits by that? The men who stay on the job will probably get higher wages; management should benefit; stockholders should benefit by decrease in cost; and the consumer would benefit by reduction in prices. So three parties benefit, but the whole impact is borne by the 20 men that were thrown out.

Now, I have been thinking for sometime that possibly we haven't done enough in industry in creating an incentive to bring technological improvements about. In other words, is there any way that we can find so that the men would not be afraid of making suggestions, better method ideas and improving, if they were sure that it would not work to their disadvantage. The way it works today, you take the 20 men and they howl. Of course the 80 men who will get increased wages as a result of this won't howl, they are getting along all right and nobody else will howl, but these 20 men can kick up an awful lot of dust so that it would look as if management was in the process of speeding up and all that sort of thing to the disadvantage of everybody.

It can be said to the credit of John Lewis that he has always actively campaigned for installation of more machines, more mechanization in mines, reducing the number of miners. I talked with John Lewis a few years ago, and I told him the number of men were less because of mechanization. He said that is perfectly all right—it is progress. He said, "I would rather see a hundred thousand coal miners higher paid than have four hundred thousand who are not."

In the coal mining industry a tremendous amount has been done in the mechanization of the mines to the extent that the output per man in the American mines per day is seven and three quarter tons and in Great Britain one and a half tons, and that is the difference.

QUESTION: If the nation achieved a stable economy where prices were, "in line" with wages, do you believe that labor would attempt to seek wage increases based upon years of service? If they would, do you think they would be justified in doing so?

ANSWER: Well, I don't know what you mean by "in line." If you mean that we are going to reach a static condition in this country where the prices are going to be thus and the wages are going to be so, I would hate to live in that kind of economy. It would be too deadly.

I think we should have a situation here where we can exercise free rights to raise a little hell once in a while, either in cutting prices or striking for higher wages and that sort of thing. I think it makes life much more interesting, than one fellow determining when prices and wages are in line.

I don't know what the proper price for automobile tires is, and I don't know what the proper wage is for the man who makes the automobile tires—I have no idea.

It is just a question of stimulating an interesting life by fighting about it all the time. I just don't want to see anything as deadly as having prices and wages all in line. It is quite obvious when your cost-of living levels off and/or starts to go down that you do not have the same demand for the wage increases as you have when the cost of living is up.

Evidence of that is in 1949 and the first few months of 1950. There was practically a stable condition. There was no wage increases being made and everything was going along pretty well.

QUESTION: Do you think there will be a shorter work week, less than 40 hours, in store for employees in the future?

ANSWER: Yes. The only reason we are able to afford a 40-hour work week is because of our technological improvements and our mechanization. It isn't because anybody demanded it and got it, but if we are able to further improve our methods, I do not think that there is anything sacred about a 40-hour work week, 48-hour work week, or eight-hour day or anything else.

I think if we can produce all we need to support our economy, and maintain our standard of living in a 20-hour week, that's fine. If we cannot do it on a 40-hour week, then we would have to go to something else, but I think the whole thing depends upon the extent to which we are able to improve and lower the cost of producing goods.

QUESTION: What do you think will be the most significant labor trend in the next few years?

ANSWER: I think trends in this labor field get started because of some conditions that exist. I think that this trend—and I am probably going to take longer answering this question than I should—goes along the lines of company pensions that could have been avoided.

I think that something should have been done about it. I think that in most of the industries whenever the matter came up and anyone attempted to establish the fact that there was a real problem there, most of us hollered "socialism."

Take the situation with this high concentration in these industrial areas. That high concentration came about as a result of our efficiency and our methods of operation which are only possible under a free system of government. In other words, we fail to take into account that when you operate under a free system and you become prosperous that you get a lot of problems which you do not get under another system.

Part of the problems we have here today do not apply at all to China, Japan or many other nations. Now, the problem that came out was the fact that the people, 40 and 50 years ago, the first people who came into this country, had roots somewhere back in the soil, back in Europe or somewhere else. They had a certain pride in their accomplishments, and they had an idea they might go back sometime. They probably knew they couldn't, but as long as it was in their minds they might go back where they came from "if worst comes to worst," that gave them a feeling of independence.

Now you get the second and third generation of those people in Detroit and other industrial areas, and the only thing they had to lean on is the industrial payroll, and the hazards which go with it—fear of being laid off, getting too old to work, getting sick, etc.

We have had certain situations where the development has been so great that

medical facilities haven't kept up with the demands.

I think the answer to that one—certainly I am not a socialist—the answer would be had industry been well advised, they would have gone out eight or ten years ago and advocated increasing the social security tax and getting some adequate social security payments, and we would not be confronted with this thing that we have now in company pensions.

Company pensions are means to recognize long service on the part of employees, creating good will and paying for itself on that basis. Keep employees for a long time, if they stay, their services were recognized by giving them some kind of pension; but, they were never intended to give security. That is, there is no such thing as security in that because any time a man wanted to leave or did leave that particular company, he did not have anything to take with him.

However, the American employee has been sold on this idea of security through company pension plans, and there are a tremendous number of company pension plans that are in operation today that will not stay in operation, if we go into any sort of a bad depression because companies cannot afford to pay.

In regard to the company pension plan, U. S. Steel is opening a plant near Trenton, New Jersey. Iron and ore would be coming in from Venezuela and Labrador, and there will be a lot of steel industry along the Atlantic Coast. What is going to happen in Youngstown and places like that? They will be curtailing operations there. Obviously those people are going to be off the payroll and they don't have any pension. Then we are back to where we were before with inadequate social security.

I think if we faced that situation, we would have avoided the trend that we are going through now with the establishment of company pensions. If we get a business recession, and a lot of people are thrown out of employment, the next big thing that is going to come out probably depends on the part of labor unions, something in the way of a guaranteed annual wage, and a pretty tough one to contemplate.

I think industry could afford a guaranteed annual wage, if it would bring about enough in the way of increased production. I think it is possible to bring about enough in increased production to pay for it, but you cannot have a guarantee of annual wages and people not producing a full day's work, and you cannot have guaranteed annual wages in an industry which is possibly overstaffed now and where the demand is decreasing rather than increasing. I think that possibly would be one of the trends in labor relations.

Another possibly would be—and this has nothing to do with the previous one—probably the A.F.L. and C.I.O. will try again to get together and they will succeed if they can ever agree on terms.

Round Table Discussion
MARKETING TRENDS

AL N. SEARES, Chairman
Vice President, Remington Rand, Inc.

OPENING REMARKS
By CHAIRMAN SEARES

IT has been said that Columbus did not know where he was going; did not know where he was when he got there; and did not know where he had been when he got back. That's right. Columbus navigated by the seat of his pants. He got away with it; but, as the English nobleman remarked to his valet as his sleeper was shifted from the Twentieth Century to the Superchief, "With a target this size, how could the bloody beggar have missed?"

I say to you, and not critically, that in the past and even at present many a business sells its products and shows a profit simply because its market is so big and its competition so lax that it just cannot miss. I also say to you that navigating a sales course by the seat of the pants is becoming increasingly hazardous. Sure, we have added approximately 20,000,000 consumers in the last 12 years. Sure, this gain is more than the total population of roaring, booming, expanding Canada with all its spectacular growth in oil, in mining, in manufacturing, and in distribution and service trades.

I, too, am optimistic about our still growing economy. I cannot forget, however, that in the past few years we have added scores of billions of new plant capacity. We have added more steel capacity since the end of the war than Russia or Germany possesses. We have created for all practical purposes the civilian electronics industry which is television to the housewife but which is, also, a whole new armament of industrial computing and control tools. Korea, monetary inflation, and expanding population have obscured this enormous technological and productive growth; but it is here and its effects in marketing cannot be hidden forever.

I see a time and not far distant when the enormously increased productivity of our economy will provide a vastly increased flow of goods and services. Though our market has expanded, I cannot believe that it is insatiable in its ability to buy and its capacity to pay. For that reason, I believe that the management that continues to do its sales navigation by the seat of its pants will be outdistanced by those managements who chart their distribution plans in the light of information provided by adequate and realistic market analysis.

When R. O. Eastman first uttered what is now the cliche "markets are people," he stated the obvious very obviously, but he said it first. Markets *are* people; but people move and change and grow. They are not constant and unchanging, like so many rocks. In the period from April, 1950 to April, 1951, 31,000,000 people changed their residence; 21,000,000 of them staying in the same county. To the small store people who have seen their customers move from the old neighborhood to a suburban neighborhood in the same county this is obviously of first importance. It is scarcely less important to those of you who sell through retailers to your end users. If you, through your salesmen, merely call on your established outlets and fail to keep abreast of the new stores that spring up in the new communities, you limit your present and foreclose your future.

The 10,000,000 who crossed state or county lines, what of them? I saw recently in the paper that registrations in Queens topped those of Manhattan for the first time. That has more than political meaning. It is a marketing challenge smaller in size but no different in kind from the movement of population to the Pacific Coast and rapidly industrializing South. We ignore such changes at our peril.

Markets are people, and people are on the move. This is not alone a question of geography, of people leaving Manhattan for Queens, Westchester, and the Island; leaving the farms of the Midwest and South for the new chemical plants of the Gulf Coast and the aircraft factories of California. It is also a question of economic movement. While incomes remain higher in the East, they are rising at a more rapid pace in the West and South. This foreshadows a changing distribution pattern and an increasing need for rebalancing effort against opportunity.

Still another kind of shift is taking place that will change our markets and require us to increase our market knowledge and adjust our distribution and production patterns. In 50 years, the population of the United States doubled from about 75 million to about 150 million. In the same period, the number of people over 65 grew from about three million to about 13 million—and the end is not yet. Improved medical care, and the development of new antibiotics can be expected to increase the life span and the proportion of people who live to and beyond the Biblical three score and ten. We must take account of this change quite as much as of the growth of population; the growth of suburbs; and the growth in the number of homes.

Those of us who are concerned with

industrial marketing must be aware that there are more than 4,000,000 business establishments in our country today, of which only about 100,000 employ more than 100 persons. About a third of these businesses are retail stores, and about a fifth are service establishments—dry cleaners, gas stations, etc., so that about two thirds of all establishments—wholesalers, retailers, and service—are *directly* engaged in distribution of goods or services as their primary activity, while only about one in 12 establishments manufacture what eight of 12 distribute.

Knowledge of these and countless other facts is vital to planning marketing activities and to successful management of distribution. This kind of knowledge comes from market research. Yet, it is only one kind of information that we must have, and, to my mind, it is the less important of the two major kinds of information that market research in its many ramifications can provide. The other, and vastly more vital, kind of market research tells us not "where" and "how much" but "why" and "how" we can sell our expanding output.

Knowledge, naked and alone, is a feeble and impotent thing. It is only when knowledge is clad in the armor of will and armed with the slashing sword of purposeful action that it possesses and exerts the power to lead and to command. Yet, power without knowledge leads blindly to suicide from within or destruction from without.

Successful management, as I see it, demands both wisdom and will. In distribution, that wisdom depends in large measure upon intelligent use of information that the techniques of market research provide and the will-in-action demands orderly means of making use of the data that market research provides.

Roy Eastman has been charged with fathering market research. It may be modesty or something else that makes him dodge the charge. I do not know. I have heard him say that all he can claim is that he supported the infant offspring for a good many years before it ever supported him. Be that as it may, out of some 40 years of first-hand experience Roy will tell us a little of what market research can do to help us adjust ourselves to ever-changing, dynamic markets.

Marketing Determination

By Roy O. Eastman

Eastman Research Organization

THIS subject assigned to me, "Marketing Determination," is so full of a number of things that I am not at all happy about trying to surround it in the relatively few minutes that I will take.

I might dispose of the whole thing with a wisecrack and say the market hasn't got any determination; if it had determination it would stand still and not shift around so much; we wouldn't need so much market research and we wouldn't need so much management. It is in the shifts that are constantly taking place that we find the great need for research for keeping abreast of those changes and to gather what one of my friends has called the fluid facts.

This friend of mine referred to, solid facts and fluid facts; I don't know whether it is his own definition or he picked it up somewhere, but it is a good distinction. There are certain things that don't change; when you determine them once, you have determined them for all time, but other things are changing constantly, and it is in the changes and the degree of change and what it means that the field of research is most fruitful.

Now, many things besides market research go into marketing determination. Your Chairman has touched on some of them. Market research is only one phase, but it is a phase that I know a little about; so that is what I am going to discuss. I'll confine my talk to market research rather than market research method. I think method has been overdone and there hasn't been enough attention to principles and fallacies and there are quite a number of fallacies, some of which stand in the way of using in a simple way, the principles of market research. Sometimes I think that one of the great troubles in research today and one of the things that adds to the confusion in the minds of ordinary, everyday people is that there has been too much embroidery and too much attention to the means and not enough to the end.

A FORMULA. To start with, I am going to give you what I might call a vest pocket formula for all market research. It goes back to the famous verse from Kipling, "I have six honest serving men; they taught me all I knew. Their names are 'What,' and 'Why,' and 'When,' and 'How,' and 'Where,' and 'Who'." Now, if you want to set yourselves up a little pattern for almost any kind of market research, just set down those six words—"what," "why," "when," "how," "where," and "who." Bracket them and then your product, your services or whatever it is you're selling— and then on the other side of the bracket is "bought," "sold," "used"; why it is bought, sold or used and when is it bought, sold or used; where it is bought, sold or used; how it is bought, sold or used; where and by whom. But, as I say, there are certain fallacies which I at one time labelled "follies."

The right facts are the easiest things in the world to gather. They are lying around loose all over your market. The problem is to know what facts you want; what are the right facts and what they mean after you get them, so that essentially the facts are not the answer. The facts are the ingredients from which you construct the answer. Now, that is important because facts and facts alone will never save the businessman's soul.

A research man should always be questioning not only his public, but himself and his own methods. We have discarded in market research a lot of methods in the course of the years that served a purpose once, but don't continue to be useful. More and more we're depending on the questionnaire less and less, to avoid the fallacy of thinking that when the questionnaire is constructed, you have made your survey or you have got your answers. The questionnaire by itself won't do anything for you.

THE RIGHT PERSONNEL. One of the great lacks in the kind of research I am concerned with today is the right kind of personnel to do field work. Too often research personnel are purely hands and feet to ring doorbells and get answers. I don't believe in that. I used to believe in it. I used to think that when we gathered a lot of facts and tabulated them and put them through all the paces we had made a survey. Then I discovered that one of the important things and one of the things often overlooked or never discovered is what I term the "unexpected fact" the thing that most research men are not smart enough to think about.

What does that mean? It means you must have intelligent research. I would rather have one good researcher go out and call on people than get 10,000 answers to a questionnaire. Do I make my point?

So, you need flexibility. You need to make your plan for any inquiry you develop not on the basis of what you expect, not telling John to go out and find out if this isn't so, but go out and find out everything you can. Something will pop up that nobody ever dreamed of or would have thought to put in a questionnaire.

SOME ILLUSTRATIONS. One incident comes to my mind that is interesting, and partly illustrates what I mean. We once made a survey on a teething lotion, and we got all the facts and they were good facts and we learned all about the teething lotion business. But we had a smart investigator who really thought she was being facetious when she wrote into her final remarks that one thing that the manufacturer might recognize was that they were very unsanitary. One bottle of teething lotion would last two or three babies and the practice was to put one finger to the mouth of the bottle and that wasn't sanitary. It would be much better to pack a swab of cotton into the bottle and use that instead of the finger

and it would use up a lot more lotion.

The manufacturer did it and increased business 25% the next year.

Some of you will remember an automobile at one time called the Peerless. My firm was employed to make a survey on its market. During the course of the survey we discovered some unexpected facts. When we asked the various people we called on, who were mainly pre-determined prospects for that type and price of car, what the price of the Peerless car was, we found that the prices that they had named were averaging high enough to just inhibit the purchase of a Peerless and put them into the next higher bracket.

Well, you didn't need a very great amount of erudition to know what to do with that. The company resorted to price advertising and had a very substantial increase in their business.

One more illustration on the importance of the investigator and how a very, very small, but intelligent market survey may achieve valuable results. We were asked to make a survey on Spud cigarettes by the agency handling the account. We were told to hold down the cost. We made a one man survey. It was a good survey.

On the basis of our recommendations the Spud cigarette campaign was built. On the basis of their Spud cigarette accomplishments, the agency went out and solicited the Kellogg account. They got it and built a business of many millions of dollars, and that goes back just straight as a die to one little one-man survey that got a basis of facts for a campaign that was a foundation for their success.

SIZE OF THE SAMPLE. Still on fallacies of research, what is the size of a sample? I get irritated every so often when I turn on the television or radio and hear about a survey of a hundred thousand dentists or some similiar group. What a lot of nuisances these investigators have made of themselves and think of the wasted time of all these people.

In my last commercial job, the number of interviews from coast to coast totalled 167. I don't think there is any harm in mentioning the client's name, the battery division of the Thomas A. Edison Company. The survey had to provide the basis for their operating and their sales policy. But, every interview was practically a survey in itself.

SOME CAUTIONS. Another fallacy is depending on a survey. It has been pointed out that the facts are changing all the time and by the time you get to using the results of a survey, your facts may be entirely obsolete. In our present work, we have a continuous procession of surveys. Our oldest client dates back something like 12 or 13 years and the last report we rendered him was number 65. There you have one thing tying into another. What you learn in one survey you apply to another.

Research men sometimes use mysterious terms. They refer to absolute facts and relative facts. Now an absolute fact is something that is indisputable and undebatable, like the fact that it rained yesterday. A relative fact is something else again. That is the shifts that occur, the changes that occur. Now you may go out and try to measure a market, and it is an awful tough job, just for the reason that your Chairman noted that markets are so big you don't need to concern yourselves very often with the size of them. You want to know when you bring out a new product if a market is going to be big enough to sustain that product. I was just reading an ad in LIFE the other day in which they pointed out that if manufacturers of silverware sold just one dinner set to every member of their circulation that it would result in the sale of more silverware than the entire industry produces.

Anybody that has gone around our country must be impressed with the terrific size and potential market. Sometimes, however, you can get led very much astray in trying to determine potential. I will give you an illustration on that. We were hired a number of years ago to make a survey of a new product. The client said, "We are very anxious to get at the potential." I said "Not from us. We are not going to attempt to forecast or measure the potential for this product. A new product is like a new-born baby. It is like predicting the career of a new child." We rendered our report but without the potential. We were in the doghouse because they wanted that potential.

Six months from then, a new product came along that swept that product off the market. That event nobody could forecast, so there is always a lot of "ifs" in any market forecasting. Maybe the boys who are taking the polls today recollect that they went rather far astray in forecasting in the 1948 election.

Just incidentally, I might say there is a fallacy in research—obfuscation versus interpretation. By obfuscation I mean confusion and mysticism, and there is an awful lot of mystery that is permitted to surround phases of research.

If you can't understand the research report there is something wrong with it. It should be simple. There is no reason why there is any mystery attached to the gathering and interpreting of facts, but there is always danger in trying to attribute significance to facts that are insignificant. Remember that in the gathering of facts you will gather significant and insignificant facts, just as a ferreter of crime will run into a lot of clues that don't have any bearing at all. The insignificant ones have to be swept aside.

We learned that years ago, when we would get out tabulations that would look very interesting and we would say "What do they mean?" We would cudgel our brains to find out the meaning, and finally it would dawn on us that maybe they don't mean anything. It is folly to rely too much on statistics and particularly averages. I like the expression that somebody gave—an average as a mathematical device to conceal variations.

Averages can fool you a lot. One of the things that you have to remember is that figures alone, valuable as they are, important as they are, never serve any purpose until they are translated into people, into facts, into conditions.

DEFINING THE PROBLEM. Now, the first job of research is to find out what you need to know. Unfortunately, there are a lot of ivory tower people in research practice who may not profess to know all the answers, but they may profess to know all the questions. The toughest part of the job is to get at the questions. Now, stop and ponder that a minute, because it is really important.

The important thing always in any research effort you make, whether it is an elaborate one or a very simple one is to find out what you need to know. Someone once said that knowing what to ask is already knowing half, and that I can testify from experience is very, very true.

Another fallacy is the idea that all buying is rationalized, that there must be a reason for everything, and there must be an answer to every question that you ask. That comes up particularly in such a matter as preference brands. Your tyro in research will figure that he has got to get a preference from everybody that he questions. That is one of the rocks on which our pollsters were shattered in the previous election. They didn't give enough weight to the people that didn't have any opinion. Bear in mind that the lack of an opinion is just as important as the opinions that people have.

The first question, if you are getting into the realms of opinion, which is important in any research is, "Have you got an opinion"; second, "How firmly is it fixed"; and "Are you likely to change it." For example, back in my early days we did a lot of work for the storage battery manufacturers. We would get a definite expression from people as to what battery they would buy. But, did they buy that battery? They did not. So we coined a phrase as to the difference between what the people would do and what they did do—the business that was lost on the way to the market.

In other words, in marketing you've got a selling job to do. But you have also got to deliver what you sell.

Years back, when we started working for new customers I had a pet question which challenged them a little. I said, "Are you making the things you have to sell, or selling the things you have to make?" There is a difference. Some businesses, particularly those dealing with a natural product like the farmer, for example, has to sell what he has. He can't change it after it has come out of the ground. Most manufacturers have the opportunity of fitting their product to the market. They should take advantage of this opportunity.

So you have two phases of product re-

search and product development of fitting the product to the market or fitting the market to the product. It is important not to confuse those two phases.

CONTINUITY. It took us years to learn the importance of continuity. The research business as a service business is still in its infancy. Most of the people in it have not yet achieved a professional standing. They are selling questionnaires, interviews, tabulations, almost by the ton. They have every incentive, therefore, to make bigger surveys rather than better surveys.

Now the pattern that is developing, particularly in the activities of successful companies is the continuity of research, of a continuing check, because when you come to marketing research, you've got a pretty close parallel to product research.

Now, what do we do in product research? It's a continuous check on the products that are coming from the line, whether it's a bottle of toiletry or an automobile.

CONCLUSION. There are three words that have a big bearing on any marketing conception: users, uses, and use. They sound the same but they are all different.

You want to go out and build 50 per cent more volume. Generally, you've got three directions. You can either go out and develop more users, or a greater volume of uses, or more use. The funny part of it is that you can't do those three things simultaneously and by the same means.

DISCUSSION

(The following questions were asked from the audience and answered by the speaker).

QUESTION: Mr. Eastman, in regard to those three words that you mentioned, users, uses, and use, do you have any definite formula for the rotation or the order in which they should be considered?

ANSWER: No, I think it depends on the product.

QUESTION: I think this question deals with that statement you just made, Mr. Eastman. I would like to know how you would approach the problem of surveying the market for a non-consumer product such as material handling equipment?

ANSWER: Well, I hinted that you can get into deep water because your potential depends on so many things even apart from the product you've got and what you do with it. It isn't always true, but usually is, that the possible market, assuming that you've got a perfect product for it and sell it effectively, is much bigger than you are going to be able to sound out. We found through all the years of dealing with almost any conceivable field that the whole problem was one of defining the market rather than measuring it, and often market measurement can lead you very sadly astray; particularly as to a new product.

QUESTION: In other words, because a market research report is a negative one doesn't mean there isn't a market. Is that correct?

ANSWER: Correct. Your market may not have been educated to the product. It is a case of developing the market to the product.

QUESTION: I wonder if along the line of the size of sample in a consumer product, say a food product, you wish to know how your quality compares with that of your competitor, how large a consumer sample should you consider sufficient to give you a reasonably accurate answer?

ANSWER: It isn't the size of the sample as much as it is the validity. Now, you can recognize what I mean by that what I say that you've got a consumer product that is very parallel to a competitor's product. That is usually the case, and you want to know which is best as limited to a certain purpose or in a certain respect.

Now, if you go out and talk to the right people that have been carefully chosen so there is no reason why they should be prejudiced, and after you've talked to 10 or 20 people, if they have all said the same thing you don't need to go much further. If you find them pretty well balanced or fluctuating, then you have to keep on going within reason until you get the answer.

Now, frankly, in our work because of the element of continuity, most of our surveys are no larger in numbers than 50 subscribers talked to, but an hour or more is spent with every one of those subscribers.

QUESTION: Well, if you take 50, and the answer comes out somewhere near even, what do you consider a significant difference? If it were 26 to 24?

ANSWER: That again would depend on the situation. I will say this, that another one of the fallacies of research is due to the fact that, generally speaking, in order to do a workmanlike job, you must have much more precision in your presentation than is at all inherent in the stuff you are dealing with. Do I make my point? In most of our work, we ignore any variation of less than five to ten per cent. You go out and check a preference and your answer maybe coincides as it will from a single survey. You make another survey and find that one competitor is getting a little more preference, and another one is getting a little less. There is where you get your relative facts and that relation is an all important thing.

QUESTION: What sort of man makes a good market researcher, or, more specifically, is it better to take a man from outside and trained in the techniques, or a man that has been in the organization, say manufacturing, for ten years and knows your business and teach him marketing research.

ANSWER: Well, I would say very definitely not the latter because he knows too many things that he can't forget. Two things are important. It doesn't make much difference whether it is a man or a woman; how old they are; how many children they've got or anything else. First of all, they have to have integrity, because that is the essence of all effective research. They have to be honest; they have to be intelligent, and, odd as it may seem to you, they have to be good salesmen, because they have to sell themselves into the confidence of people that they interview.

QUESTION: Do you think that independent research agencies will give way to company research departments, or do you think that companies will always be dependent on independent research agencies?

ANSWER: Well, there is a lot in that question. I think as research agencies become more competent and management becomes more competent in the use of research you will get a structure resembling that with which you are familiar in the advertising field. No one manufacturer, no matter how big he is, can match the perspective a competent research organization gains from serving a variety of clients. On the other hand, as in the advertising field, the research results will funnel through a research organization in the manufacturer's establishment for implementation and action.

Economic Forecasting

By Dr. Henry Bund

Executive Editor, Research Institute of America

THE title of my paper has undoubtedly led you to expect a look into the future and an attempt at predicting what business will be like, not only during the few remaining weeks of this year, but through 1953, and possibly beyond. I have no intention to disappoint this expectation. However, it may be equally important to discuss briefly both the progress and the limitations which attend any such forecast. Before putting my head on the block ready to be chopped off by any sudden turn of economic fortunes, however, I want to express myself as clearly

and unequivocally on the reliability, the function as well as on the potential accuracy and limitations of the multiple sins which are commonly grouped together as "economic forecasting."

First off, true economic forecasting is still only a fond hope which in the past few decades we have brought a good deal closer to realization, but which is still far from accomplished reality. No one can predict with accuracy and complete reliability, either business conditions, the future of a given industry, or the course of an individual company over any extended period of time. To make such a true forecast in the economic area is no more feasible than it is to predict accurately and reliably how a particular marriage will work out, what will happen to the relations between two countries, or how a close election contest will finally be resolved. Parenthetically, I might add here that even elections which at the time did not seem close at all, have sometimes been predicted quite wrongly by the so-called experts—witness the unhappy memory of 1948.

The reasons why none of these events can be predicted accurately and reliably is basically the same. They can be summed up in one word, "people." Psychology has given us a much better understanding of individual actions and motivations, during this past generation particularly. Even with this progress, in our daily contact with other human beings we fail miserably again and again in anticipating what another *individual* might do. In economic forecasting, we attempt to predict what 158 million Americans will do in the many different facets which go to make up our economic life. Human behavior and its puzzles are by no means the *only* difficulty confronting the business forecaster. Innumerable elements—political, sociological, national and international—come into the picture, always ready to upset even the most carefully laid projections.

With these brief comments on the great difficulties of economic forecasting, I could answer your questions regarding our business future with a calm "I am a stranger here myself"—and hastily look for the nearest exit. But to do so would be denying my chosen profession. More important, it would be ignoring the very real progress which has been achieved in this difficult area to date. Despite all of the inherent difficulties, we have collectively built the foundations at least for a science which should eventually enable us to fathom the business future. We have begun to approach the puzzle of the economic tomorrow on a basis substantially better than the sheer guesswork or secret "inside" information of the days of industrial and financial pioneering. Some 50 years ago, we probably knew little more than the mere fact that certain elements in the economy existed—wage rates, working conditions, investment decisions by both business and individuals, fiscal policies in their direct and indirect impact on the economy at large. We were generally aware of them without necessarily having any real understanding of what they are, how they operate and interact on each other. The progress we have attained has brought us to the point where we know the outlines and the limitations of each of these major elements in fairly good detail. Even beyond that, we have begun the tedious task of developing yardsticks with which we can measure the size and virility of any one of these factors, and, thus, begun to lay the groundwork for predicting what its particular impact on other parts of the economy would be. This progress has been manifested in at least three separate areas.

HUMAN BEHAVIOR. Completely puzzling as it may still be in terms of the single individual, it has lost at least some of its mystery when viewed as an aggregate of 158 million people. The law of probability and averages has significantly come to our aid. Where it might be entirely impossible to predict whether a particular individual would trade his automobile next year or would buy a TV set, or how many dresses his wife would purchase—when viewed collectively we have found that these decisions of the American consumer can be predicted with a fair amount of accuracy.

Of course, it isn't as simple as my brief presentation here might indicate. Obviously, changes in income or status of prospects would significantly change this picture. So does the locale and background of the families involved. Even after we make allowances and adjustments for all of these special factors, the American consumer can collectively fool us, as they did early last year when they suddenly decided that they had just about spent enough and would start putting away a larger share of their money for a possible rainy day. Most assuredly, we have not achieved complete certainty. But we have made sufficient progress so that we have rough guides to anticipating what the American consumer will do, how he will spend his money, and translate that into what it will mean for the various industries turning out consumer products.

ECONOMIC RELATIONSHIPS. These relationships have become a good deal more understandable than they had been as recently as a generation ago. Viewed in the light of our present knowledge, some of the theories which dominated or significantly influenced economic and social thinking at the turn of the century are hopelessly obsolete today. This is true of a Henry George who not so long ago was able to win thousands of converts to his theory that only agriculture is directly productive activity. It is equally true of a Karl Marx whose basic concept that only labor is productive has since become fully discredited everywhere except in Soviet Russia, her satellites, and with some of our starry eyed friends on the left in our own and Allied countries.

More than basic economic theory is involved. Today, you will find just as few responsible economists as businessmen falling into the trap of taking one segment of the economy and considering it by itself. We have won a much better and much deeper understanding of the true inter-relations which exist between agriculture and industry, between urban and rural prosperity, between wages and profits, and between government and business. In addition to recognizing that all of these diverse elements must be viewed together, we have begun to understand how a change in one will necessarily involve changes in the other; we have even with some success begun to measure how a 10% change, in agricultural output let us say, affects both positively and negatively the fortunes of every other part of our economy.

Incidentally, I might call your attention to the progress in a related area. Though it has been substantial, far too few businessmen are aware of its existence, and fewer still recognize its importance. I am referring to "inter-industry economics," as it is loftily called in the economist's jargon, or input-output as it is far more popularly known. Pioneered in and by Harvard and Washington, this new method of measuring the relationships between various industries and trades gives us a much better insight into what makes our economy tick than any other statistical approach to date. Electronic computers that have been developed have made the infinitely large number of calculations possible. The result is a concrete measure of the extent to which any change in one segment of the economy, let us say automobile sales, will be reflected in the demand for everything that goes into the making of the final consumer product—axles, bearing rods and finally the initial ingots of steel.

This is progress indeed, but let me immediately add my usual word of caution. Even input-output won't necessarily make our economic forecasting any more perfect or reliable than it has been in the past. We must still start with certain basic assumptions about the forces which will help shape the economic climate. Where input-output data and so much of our newly won economic knowledge comes in, is in helping us to translate these basic assumptions or educated guesses about the over-all shape of the economy into pounds or tons or yards of material, into hundreds or thousands of finished product units which this kind of economic environment will permit to be produced and consumed. In other words if—and it's still a big if—we guess right about the type of general economic conditions which will prevail, about the general number of consumer products which Americans will buy, then, and only then, will our new tools help us to translate these basic assumptions into concrete forecasts which can be used in planning your own company's future and operations.

In anticipating the actual economic climate, we have also made progress, though it is not nearly as spectacular or tangible.

Without going into detail, let me simply call your attention to the fact that after many years of intensive study, the National Bureau of Economic Research has finally come up quite recently with a set of economic indicators which *together* form as good a warning signal of economic changes as any yet devised. Though any one of these indicators may fail at times, together they have a remarkable record of reliability. However, even this combined tool doesn't really tell us of coming economic changes. What it does is to help us identify more positively and reliably every change in business conditions at a very early stage when there is still time to make necessary adjustments in the economy as a whole and in the individual business as well as in our personal plans. That in itself might help us mitigate and smooth the extreme ups and downs of our economic cycles.

NON-ECONOMIC FORCES. These forces are finally and slowly beginning to lose some of the air of mystery which for so long has surrounded them. It is a good thing, too: the rugged individualists of the 19th century may have found it relatively easy to ignore political influences which were brought to bear on their economy; in retrospect these forces then seem minute and quite insignificant. However, at a time when the Federal Budget runs close to 25% of our total national output, when taxes of all kinds take close to 1/3 of our national earnings, that type of blissful ignorance can be dangerous indeed. Compelled by necessity we have learned to explore and appraise the effectiveness, or lack of effectiveness of government action, spending and taxing. We have begun to understand a bit more accurately the multiple effects which every decision of government has for the economic well-being of the economy as a whole and every individual in it.

Of course, our knowledge in any of the three large areas I have mentioned is far from perfect. Even in retrospect, much honest disagreement remains about the precise significance which any of these factors had in the past, such as the continuing debate on whether Roosevelt's New Deal ever really solved the unemployment problem, or whether it was the Second World War which finally solved it for him. If there is relatively so little agreement about the past, it can hardly be surprising that there is even less unanimity about the future. This is particularly true because the basic relations and interactions between various forces affecting our economy are changing. Obviously one billion dollars injected into the economy for pump priming purposes when Roosevelt first came to power necessarily had to have an entirely different effect than this same amount of money would have under today's overblown conditions. The whole structure of our country, the attitude of its people, our standard of living, all have changed to such an extent that the past can be little more than a rough guide to lead us to the point where our work must start in interpreting what is happening today. The hope and confidence which I have expressed in progress along the lines of economic forecasting is entirely due to the fact that every step we take in the direction of a better understanding of the past will put us that much closer to comprehending the present and being able to estimate the future. Even though we may still be far from the goal of actual and accurate forecasting, the progress achieved in this direction to date is certainly worth noting.

ADDITIONAL QUALIFICATIONS. With the limitations in mind which I have just briefly discussed, I have little hesitation to make my prediction—especially before this group. Because every man who is in business management of necessity is very much part of the economic forecasting fraternity. Every day-to-day decision you make in your own company directly or indirectly implies and reflects your judgment of economic conditions to come. Obviously when you move to increase or curtail the work force of your firm, when you buy a carload of raw materials or an additional gross of a particular toy for the coming Christmas season, when you accept a purchase order from one of your customers at a set price, when you decide to replace or add a piece of equipment, you are doing so only because in your own mind you have decided that this action will be economically sound and profitable in terms of what you see in your company's future. The same basic judgments go into the making of a national economic forecast except, of course, that many of the difficulties pertaining to a particular company projection are multiplied many times over and that additional imponderables further muddy the crystal ball.

Having thus welcomed you into the fraternity, let me then urge you to use the same cautions and the same wisdom in applying mine or any other person's national prediction as you daily apply to your own personal forecast. You certainly wouldn't set a sales budget for your own company and then hold it sacrosanct regardless of what your daily sales figures actually show. You wouldn't dream of putting a price tag on a new product and then stick with it even though you found that it simply wouldn't move at that price. You wouldn't start on a long-term plan of expansion and carry it through to the final tragic completion if you found that you were creating much more capacity than you had any reasonable hope of using profitably in the near future. Sound business judgment for any individual company operates in terms of expectations and probabilities. You start out with certain basic judgments — but you revise them almost daily in the light of changing conditions. When your monthly or quarterly figures are in and they show significant differences from your own budgetary projections, you adjust your thinking, and probably also your budgets.

All I'm asking is that you apply the same sense of proportion and the same wisdom to anything which this or any other economic forecaster might tell you as to the business future of this country. If you want to use this or all available forecasts together as a basis for your own business planning, by all means go ahead and do so. But do so with a clear knowledge that it represents no more than an expert estimate of how the up and down forces balance out at the moment, what they seem to portend for the future. As such, these forecasts are probably a sound basis from which to start your own company planning. They most emphatically are not a permanent foundation on which to base your own action for 12, 18 or 24 months. They will require constant adjustments and revisions if forces beyond the prognosticating power of any of us alter the basic odds. If tomorrow morning the Mosadegh government succumbs to the pro-Russian Tudeh Party, if the day after the Chinese Reds openly invade Indo-China and throw panic into the defending French forces compelling us to intervene, then obviously all bets are off. I am sure you will agree with that much.

But the events which alter the economic landscape and prospects don't have to be that dramatic. Even far less clear-cut changes, both international and purely domestic can significantly alter our expectations. If for one reason or another, fear of a serious recession grabbed the country and compelled large groups of consumers to double their current rate of savings and proportionately reduced present spending, the economic impact could be almost as serious. If an unexpected technological development threatened to destroy the value of much of the present investment in a major industry, such as electric power or cotton textiles, the economic future of many sections of the country would be fundamentally affected. The daily newspapers, and if I may be permitted a reference to my own organization, services such as the Research Institute provides, would alert you to these changes. In the light of this news and its interpretations, you would necessarily have to adjust any forecast in terms of these later developments.

The only reason why I feel free to take the time I have on this general discussion of economic forecasts is because I firmly believe that business can and should know these qualifications before it hears or accepts any economic predictions—in the interest of both business and the economic profession. With that out of the way, I am ready to plunge into a reckless presentation of what I personally believe to be the economic outlook.

A BASIC CONCLUSION. America faces an economic recession starting some 10 to 18 months from now. The threat is far more serious today than it has been at any time since before World War II. If and when it comes, this period of readjustment will be both longer lasting and more deeply disturbing than any of the difficulties we have had to confront in 15 years, and possibly longer.

Though this prediction is made a short four days before the national election, it

is not based on any anticipation of the outcome of that contest. Regardless of whether it is Stevenson or Eisenhower, the victor will be taking the rap for a good deal of economic sin and inevitable development which has occurred over the past 12 years at least. The day of reckoning which I personally believe is inexorably coming, cannot and will not be avoided by the next President, no matter who he is, though its impact and severity may well be influenced by the next occupant of the White House. The fact that this day of reckoning has been postponed by a long succession of circumstances, some planned, some accidental, still others imposed on us from behind the Iron Curtain, such as Korea, merely makes the prospect and the need for readjustment that much more certain.

Of course, there's always the possibility, no matter how remote, that the readjustment may again be postponed and that it may not materialize during the next four years. Even apart from economic forces, this possibility must exist as long as there is a threat of World War, as long as the cards in this game for the world's future are being dealt primarily from Moscow. If Russia starts or provokes a new world-wide conflagration, all bets are off. We will then not have the need to readjust and reshape our domestic economy, but we will be trading that relatively minor evil for the greatest tragedy which nationally, personally, as well as economically could possibly befall this country and the entire world.

Compared with this alternative the type of readjustment I am speaking about doesn't seem bad at all, though it will involve many individual hardships and frustrations. I most emphatically do not look for any real depression, nor do I expect mass unemployment, misery and suffering. On the contrary, I believe that the basic health of our economy, bolstered by the props, both natural and artificial, which support it are strong enough to prevent any serious slide from assuming catastrophic proportions. Though this may be heresy in days when economic security is the popular slogan, I do believe that a readjustment of relatively limited duration and scope would leave us in a far stronger position, facing a much better and healthier future than we have any assurances to expect today.

Here are the five main reasons which compel me to draw the basic conclusion which I have just stated; they may also spell out in somewhat greater detail the implications of this business outlook for the individual markets, trades and industries in which you are directly interested.

I. Government spending. A review of defense needs is certain after the election. If the lag is as bad as some recent reports indicate, there is a real chance that the new President will talk not of cutting defense spending but of increasing it—and Congress would go along.

However, as things look now, odds still are that the leveling off will start within the next 12 months—and that the peak level will be below $60 billion rather than Truman's $65-$70 billion figure.

New obligations, which are always ahead of actual spending, of course, have already come close to $60 billion or will do so within a matter of months. Another factor is that the carry-over of unobligated, though authorized, funds is smaller now than it was while the defense program was gaining momentum. As a total result, the number of contracts to be signed in the present fiscal year is almost certain to be smaller than in '51. Many armament manufacturers will feel the leveling-off and slowdown even more sharply and at an earlier date than indicated by the national figures.

In assessing the impact of this change on your own company or industry, changes in individual procurement are important. The main support counted on to sustain the rate of defense work is aircraft, where the peak isn't due until '54. The rising curve will offset declines in such items as light tanks and similar equipment, current output of which is already being slowed, due partly to lighter-than-expected material losses in Korea. But the implication for the individual contractor outside of aircraft is obvious: only constant checking with procurement officers will safeguard your company against the severe impact of sudden reduction or outright termination of your contracts.

In terms of the over-all economy, the vital fact is that in the past 24 months the rising rate of defense spending has blunted the down forces which were developing. Looking ahead, this offsetting factor will no longer be present and every downpull from other sources will have sharper effects. In many vital respects, our economy has been reacting to these injections of government spending very much in the way of a drug addict. We have absorbed and adjusted to the dosages which have been given in the past; they no longer have the kick which they once had. In order to exercise a positive influence, the dosage would have to be increased. I simply don't believe that, barring new international complications, it will be stepped up.

II. A drop in business spending. Every depression in recent U. S. history was foreshadowed and accompanied by a decline in business spending for machines and facilities. Last year's investments amounted to some $23.3 billion. This year the figure will run even higher. But the very magnitude of this investment program indicates that it cannot continue much longer. In industry after industry, there are now signs that we may be adding more capacity than the economy can reasonably use in the short run—despite the long-range probability that American demand will eventually enlarge to the point where it can absorb the entire output of all the new plants.

Among the most important evidence indicating a significant decline in capital spending are these facts:

...Though no official government or private surveys have as yet probed very deeply into business plans for '53, most industries making producers' goods report a decline in new orders and lessened buyer interest. However, typical of the volatile nature of the situation, more recent months brought reports of a surge of orders for machine tools.

...Accelerated amortization, which has encouraged expansion with over $17 billion worth of facilities covered by certificates of necessity since Korea, has slowed to a fraction of what it was a few months ago. In several instances, certificates already granted aren't being used, or at least not fully.

...There is a growing feeling in some industries that their capacity is already over-extended, especially in view of the possibility that prices in '54 and '55 may well be lower than they are today. The fact that we have practically doubled our industrial plant since 1940, taken with gains in productivity, would tend to support this more cautious view.

Earlier this year it looked as though the first decline in business investments would occur well before the end of '52. However, the steel strike changed the picture, stretching many projects into early '53. Even with this postponement, however, business spending is still likely to slide about 10-15% in the next 12 months, with another drop of approximately the same size probable after mid-'53.

There are, of course, exceptions to this general trend. The most obvious is the electric power industry which plans to expand 38% by '54. Plastics and synthetic fibers are due to continue growth also. Most of the capital goods makers serving other industries, however, will have to rely on modernization and added mechanization to maintain their sales at anywhere near satisfactory levels for some time.

III. Construction. Along with the dip in commercial and industrial activity noted above, new home building will slacken within the next few months. Backlog needs will finally be close to satisfied either late this year or, more likely, early in '53. Once this happens the industry will have to depend largely on the natural growth of the market, which is bound to shrink because the people now coming of marriageable age are the depression babies—fewer in number than recent groups. The result will be a significant decline in the formation of new spending units.

One important offsetting factor will be public construction. Most types of public projects have long been neglected. Everything from highways to schools, water, and other utility facilities requires considerable catching up. However, it seems doubtful whether, in the face of a general readjustment, there would be enough funds available to make up fully the deficit in industrial and residential construction. A decline of even 10%-15% in the total level of building activity could add heavily to the downpull generated by the drop in government and business spending.

IV. The role of foreign trade. Some nine percent of our production usually goes

into export sales, and while this figure may not seem high enough to be a crucial factor in our economic well-being, there are two reasons why it is actually more important than it looks:

1. In many industries, the relatively small percentage of foreign sales accounts for all or nearly all profit. (This was traditionally true of motion pictures, for instance, where the rule of thumb was: "Domestic bookings cover the costs, foreign markets bring the gravy.")

2. Foreign sales have played a large role in the boom of the machinery industry, in the chemical field, in agriculture and elsewhere.

A slackening of foreign demand for U.S. goods—whether due to lack of dollars, or foreign curbs on imports, or new competition from Japan and Germany—can have sizeable effects in this country. On the other hand, U.S. shipments abroad under the Mutual Security Program will be larger than last year; and military aid will be substantial. This will be true whether Eisenhower or Stevenson is elected. On balance, therefore, I do not anticipate the kind of export sag that might trigger a recession here, but the weakening of this economic prop will add to the vulnerability of the economy if a test comes.

V. Consumer spending. There is much to support a confident view of consumer purchases over the next few years. American families on the whole have attained a record high level of economic well-being. Current and prospective increases in income will add to their purchasing power, which is now backed by record savings in liquid and semi-liquid forms. The purchases made by many consumers in the two post-Korea scare buying waves seem to have been digested finally, so that a return to normal buying can be expected.

The key question is whether most families are in a position to maintain their standard of living, if the start of a general business decline results in layoffs and shorter working hours. All present indications, including the extent and continued up-growth of consumer indebtedness, add up to this: even under the prosperous conditions early next year, many vital lines such as automobiles and consumer durables cannot expect to reach the production and sales figures of late '50 and early '51.

Add the possibility that such other important lines as textiles may also face a temporary dip (as indicated by their long-term experience of a two-year cycle between high and low sales) and you get a picture of a lag in spending which, though moderate, could seriously affect every business which deals in goods and services for the consumer. Here, again, the optimistic and pessimistic possibilities will be delicately balanced. The one certainty is that the economy will be vulnerable; and business must plan accordingly.

ROLE OF THE FEDERAL GOVERNMENT. With strong signs already pointing to a coming period of economic difficulty, the question must be raised about Washington's role in the event of a recession. My strong opinion is that at least initially business will be entirely left to its own resources—that is, at least to the extent to which it is left alone today. At the very time when the new President will present his program to Congress for legislative action, business conditions are likely to be good, and the general atmosphere will probably be one of mild inflation rather than deflation. A White House request for measures against a recession will sound abstract and unconvincing. Although business executives, government officials and labor leaders may already be spotting signs of trouble in their particular areas, it will be hard to develop any real concern over economic setback.

Add a new political factor. The White House, whether occupied by Stevenson or Eisenhower, will have a strong feeling against additional government intervention in business unless and until it is clearly dictated by circumstances. Eisenhower would be more reluctant to move than Stevenson, and might not move as far—but Stevenson would also move slowly, as indicated above, and much less directly than Truman.

The reluctance of the next president to seek Washington action against a possible recession will be reinforced by the conviction of many leaders in both government and business that a mild recession may be healthy—that it may be precisely the way to shake out the economy for a sound resumption of long-term growth, avoiding a really severe depression. There is in any case a growing conviction that the economy must at least pause on a plateau long enough to digest the terrific growth of the past few years.

CONCLUSION. If I may be permitted a personal note in closing, I should like to express the conviction that this relative inactivity on the part of Washington may well represent one of the important gains to be made from such a period of readjustment. As I have indicated earlier, the magnitude of government spending and the government's role in the economy have become such that only a gigantic new injection of government expenditure could produce any sizeable impact on the economy. Unfortunately, far too many in our economy—including a surprisingly large number of businessmen — have come to look to Washington to save their hides and to protect them against necessary changes and readjustments. I can well conceive of a change in psychology flowing directly from a period of recession which, at the most, should not extend over 18 or 24 months, which would leave our people stronger economically as well as psychologically to go on to a brighter and better future when our natural growth once more catches up with our economic capacity—probably starting by 1955.

DISCUSSION

(The following questions were asked from the audience and answered by the speaker).

QUESTION: Isn't the timing of a recession more predictable than the magnitude? I'm thinking of the snowballing of it.

ANSWER: That's a very good question. Let me first of all make one thing clear. I was speaking of vulnerability in '53. I agree with the economists who see this thing coming in the middle of next year. In answer to your question, 15 or 20 years ago it would have been "yes." At that time, we knew how to measure a beginning recession but we never knew how far it would go. I think we have today certain assurances in the props of a minimum wage, in agricultural support, in the extent to which the government as such arbitrarily, can increase or decrease certain pressures or supports, which makes it a good deal easier to predict how far down it can go. In other words, we know the direction. We can estimate roughly how low it could go. That doesn't mean it will necessarily go even to that point and I don't see a depression.

QUESTION: What is the main cause of differences in forecasts from experts? We see various forecasts which come in; they vary a good deal and we get pretty much confused as to the methods and interpretations. What is the main cause of difference in forecasts?

ANSWER: Did you ever see two men looking at a very pretty girl and one said, "Gee, she's nice," and the other one, "I don't know what you see in her." That's about it.

I purposely gave you the argument about the early days of the New Deal to show you that even in retrospect, when theoretically you should be able to measure what was accomplished, you can't get agreement. If you can't get agreement about what is accomplished as a statistical fact, you certainly can't get agreement about facts which you are projecting.

QUESTION: Will you cover the possibility of any elimination or reduction of the excess profits tax for next year?

ANSWER: I personally do believe that it will be eliminated effective next year. I believe the excess profits tax will go out. The new President will have a very legitimate reason incidentally for delaying a tax reduction program. He can't reduce taxes very well until he has had a chance to take a good look at the budget.

QUESTION: Barney Baruch says that high taxes are very good for the economy as far as inflation is concerned. What is your opinion about that?

ANSWER: I unconditionally agree with Barney Baruch, provided that the thing is applied the way Barney Baruch has always advocated, which was, at a time of very high economic activity you raise the tax rate as much as you can and drain off purchasing power. You also impose all of the possible credit curbs. You rely, only as a last resort, to price control and wage control; but I don't see these fiscal measures during periods of prosperity. If you

do that—if we had done that fully, then we, also, would be obligated during a period of possible economic difficulty at the first sign that the thing is sliding, to cut taxes.

That is Baruch's thinking and everybody has picked that part out of it which suits his convenience and cited Baruch as authority.

QUESTION: My recollection is that in '49 we had somewhat of a drop. How does what you are talking about compare with what happened in '49?

ANSWER: '49 was signalled fairly clearly. In other words, you could see it coming. It was also fairly obvious that because a number of backlogs still weren't fulfilled that the thing wouldn't last and wouldn't go deep.

The kind of readjustment I'm talking about which might start let's say early in '54 would be about twice as deep. More important, its effect would be more widespread. The thing that saved us in '49 was the fact that it hit various industries in succeeding waves. It didn't hit everybody at the same time.

This time we look for a substantial number of industries to be hit at the same time, to go about twice as deep as '49 and to last roughly 18 to 24 months, which would be better than twice or just about twice the duration of the '49 readjustment.

Don't forget that even before Korea there were already clear signs that we had pulled out and were coming up, which is why Korea produced such a terrific inflationary impact. If we still had been in the '49 depression, Korea wouldn't have done us that much harm.

Round Table Discussion
DESIGN TRENDS

H. E. BLANK, JR., Chairman
Editor, MODERN INDUSTRY

Human Factors In Industrial Design

By Dr. Jack W. Dunlap
President, Dunlap and Associates, Inc.

ALL too often in the past, equipment has been designed from the standpoint of performing a given mechanical or electrical function, with little or no thought as to problems confronting the user. Since the war, however, there has been manifested an increasing awareness of human factors in the design of many new products and kinds of equipment. This has been reflected in the advertising claims of easier, quieter, safer, cheaper, more accurate operation. Such claims can be justified *if* the manufacturer has used the proper scientific approach in developing his product. Aside from advertising value, this approach helps to eliminate wasteful production and costly design changes, and to increase sales, volume, and profit through increased customer satisfaction.

No machine or product can be considered by itself, but rather must be considered as a single component in a man-machine system. Machines must be so designed that they allow for human limitations and capabilities. These limitations are the practical limits of human performance and sensitivity, and the design must provide applicable tolerances based on such limits. If the human element of the man-machine system is not considered, efficiency will be lost, operating costs increased, and profits decreased. For the purposes of this paper, the term "machine" will be used to mean any type of product —a piece of military or industrial equipment, a commercial or household appliance, a business machine, or an instrument.

DESIGN OBJECTIVES. First let's consider design objectives. A request put to us recently by a certain manufacturer is typical. This manufacturer said, "We want to develop a product that will do the job better than our competitor's product (i.e., will be superior in performance or utility); that will be easy to operate and maintain; that will have sales appeal (this objective of course requires an optimum relationship between performance, appearance, and cost); and that will be relatively easy to produce."

APPROACH. Here, then, is our problem. How do we approach it? First, we must determine the requirements to be fulfilled. For example, what speeds, what degree of accuracy, what operating conditions or hazards, what kinds of people, what sorts of maintenance, what sorts of space, what sorts of weight will be involved in the use, transport, or storage of the machine or product? Such requirements must be considered whether the product will be used in inspecting crankshafts, piloting a plane, counting pills, operating a power plant, or cooking supper.

The next step is to determine the effect of these requirements on the user or operator. What about the operator's comfort, his safety, his strength, his learning ability, his visual and auditory sensitivity? Perhaps a brief discussion will illustrate the nature of the designer's problem.

Visual signals represent a feedback from the machine to the operator. They provide information for use in decision making, such as to slow the machine down, to speed it up, or to stop it. If man-machine performance is to be optimized, answers to questions such as the following are needed. Does the job call for close or far vision? Is depth perception important? Is color vision important? What illumination is needed? Will vibration affect visual performance?

The designer is not limited to visual feedback, however. At times he may find it desirable to replace or support visual signals with auditory ones. In selecting auditory signals, the designer must consider how the operator's performance will be affected by such a factor, for example, as noise, which may make the signal difficult to hear or to interpret.

The senses of touch, pressure, warmth, cold, and pain can be useful on certain occasions in providing information to the operator. The feedback from muscles, tendons, and joints can also be considered in designing equipment. This feedback is technically known as proprioception. It tells us about the position of body members. The muscular activities involved in the steering and braking of an automobile are a neat example of it. Proprioception is also the technical explanation of the expression, "Flying by the seat of the pants," which refers to the cues one receives from one's muscular system when flying a plane. Where the positioning of a control is a critical factor in machine operation, proprioception may be the major consideration.

However, this is not all. Various operating conditions such as work space, temperature, humidity, and ventilation must also be considered. Psychological factors, like danger, size, whether one works alone or with others, must be considered, too.

The illustrations which follow indicate the need for and value of applying human engineering principles to product design.

FIGURE 1. This shows, perhaps most aptly, why human factors should be given scientific rather than casual consideration. In the upper half of the figure, is a manufacturer's version of a stove; in the lower half, is the design we recommend as superior. Our recommendations are based on data obtained from 78 housewives and from previously known facts and principles. In designing our model, the sequence, labels, color, location, and arrangement of push buttons were our main interest. Our version, in addition to being safer, permits operation with established habit patterns and a minimum of learning. The recommended sequence calls for magnitudes to increase from left to right (instead of the reverse); non-ambiguous labels (low

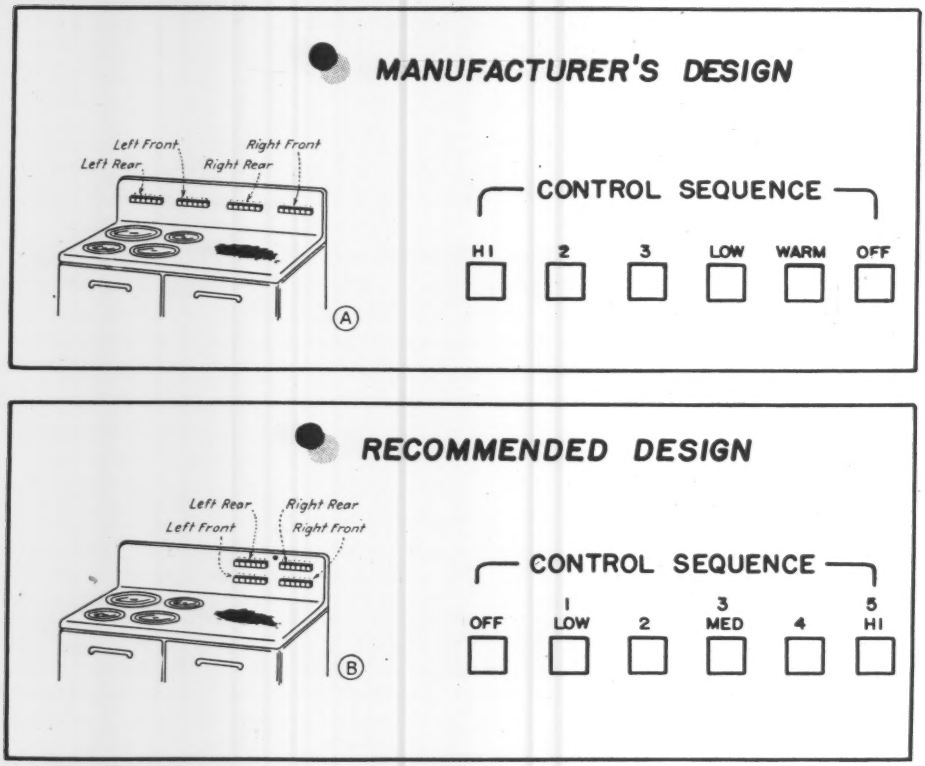

FIGURE 1—Stove.

can no longer be confused with warm); one color to illuminate push buttons rather than five; and the arrangement and location of the push buttons in a more logical, readable, and safer manner.

FIGURE 2. This figure shows a mine hoist and operator and is based on a photograph which appeared in the advertisement of a machinery company. The sketch is not exaggerated. In fact, to protect the manufacturer's identity, some of the worst features have not been reproduced. Two that I would like to call particularly to your attention are (1) the position of the operator, and (2) his viewing area. Standing spread-eagled on one foot, he is in a position conducive to fatigue, muscular strain, subsequent error, and accidents. In addition, since he is required to read a dial tilted both 30 degrees upwards and sideways, his viewing area is reduced by 75 per cent.

FIGURE 3. This shows scales taken from a single radar console. Under emergency or battle conditions, radar operators are required to make both accurate and quick readings. Normally they are not engineers; in fact, in a military organization, they are relatively unskilled personnel.

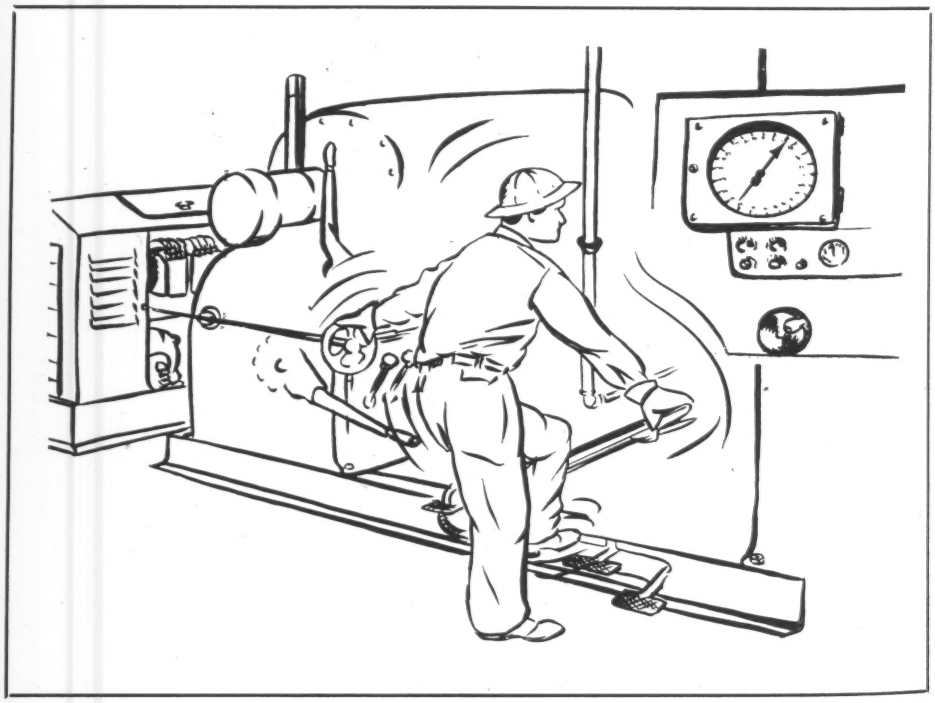

FIGURE 2—Mine Hoist and Operator.

Human Factors

By Jack W. Dunlap

Yet, here the operator is supposed to read linear scales, power scales, scales marked in units of five, scales marked in units of ten, and other scales marked in units of seven. There were over 40 such scales on the console; and, as an experiment, we asked 15 engineers to read and record the values indicated. Not one of them had a perfect score. The implications for a battle situation are obvious. Yet, I have observed analogous situations in commercial operations.

FIGURE 4. This shows the cutting sled of a well-known lawnmower. The blade adjustment screws are so placed that making an adjustment is a difficult task. This could have been simplified by the simple expedient of extending the screw so that the head was beyond the shield. Then adjustments could readily be made. Further, a simple marking, such as an arrow, would indicate which direction raised or lowered the blade. A small thing, perhaps, but it has resulted in much profanity, skinned knuckles, and customer dissatisfaction!

FIGURE 5. This is a sketch of a widely advertised hedge trimmer, with the handle for one hand placed on the cutting side of the blade. This forces the operator to stand in front of the cutting blade, a potentially dangerous position in case of a slip or fall.

Industrial Design

(continued)

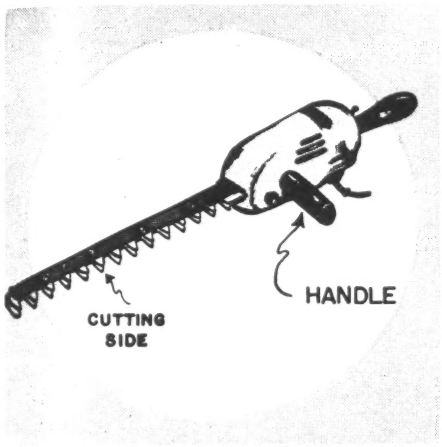

FIGURE 5—Hedge Trimmer.

FIGURE 6. Eggbeaters have been in use for at least 50 years, but where is there one with a crank that is optimal for the average housewife when she is mixing heavy batter? A simple fact has been overlooked, namely, the ratio between the radius of rotation and the optimum movement of the wrist joint. A little research should provide the answer.

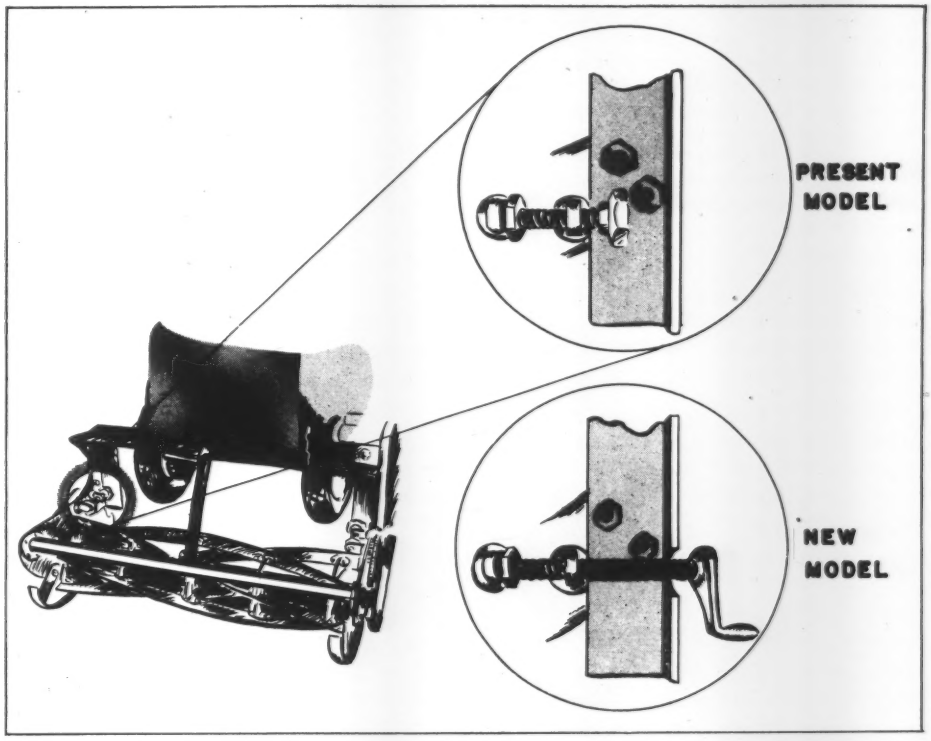

FIGURE 4—Lawnmower.

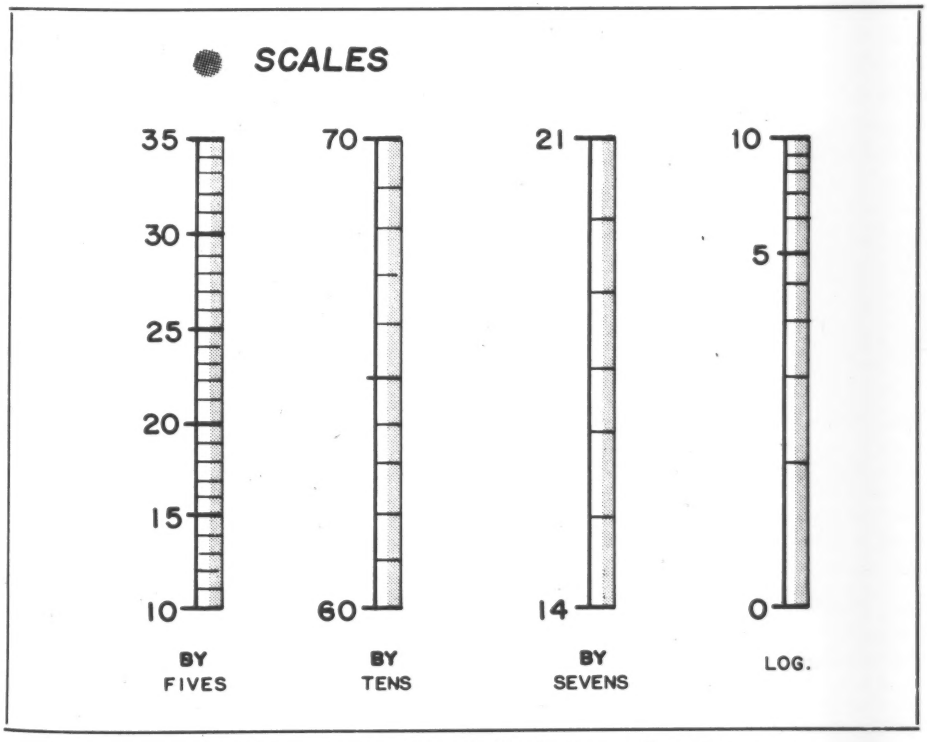

FIGURE 3—Scales From A Single Radar Console.

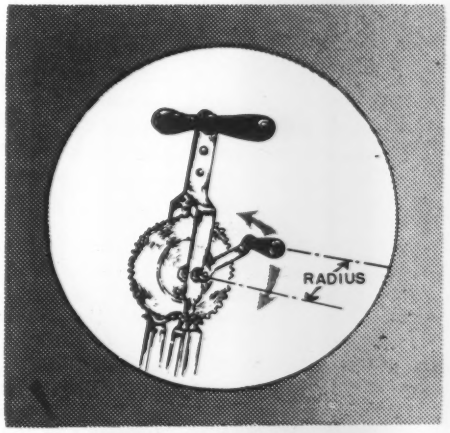

FIGURE 6—Eggbeater.

FIGURE 7. This is an example of good design from the standpoint of the operator of a steering wheel. The shape and position of the spokes of this wheel form a natural resting place for the hands and thus help to reduce driver fatigue. An easy way of testing this for yourself is to place your hands face down on a table and then turn the palms in towards each other. Another very real advantage stems from the elimination of the third spoke and top half of the horn ring. These omissions increase visibility for the driver. For the small person, this greater visibility is particularly important.

FIGURE 8. The usual method of transmitting signals from equipment to the operator is through dials, scales, and pointers. If speed and accuracy of transmission of information are important, then the design should consider such factors as size, position, critical information, and methods of presentation. This last includes lettering, illumination, precision required, and the pointer which indicates the specific information to be transmitted. Figure 8 shows an instrument in which the pointer design makes it extremely difficult for the operator to obtain required information quickly and accurately.

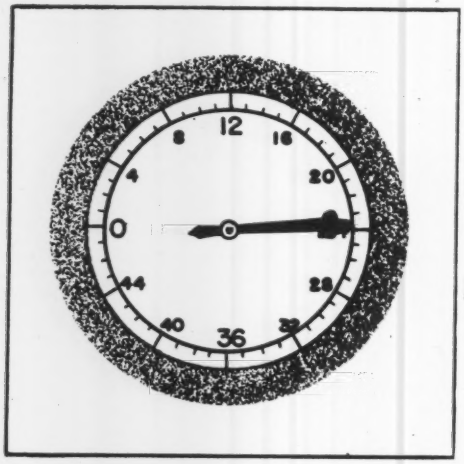

FIGURE 8—Pointer.

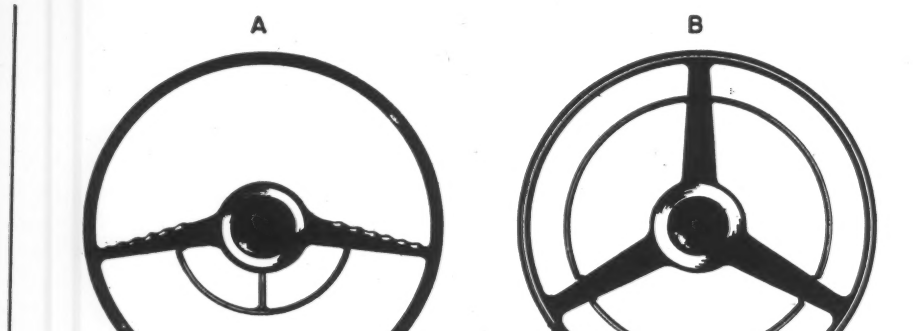

FIGURE 7—Steering Wheel.

GUN BLOOM. During the war, a great deal of concern was expressed regarding the night vision of pilots. The eye adapts itself to conditions of low visibility by building up a substance known as "visual purple," which enables one to see at night. Visual purple is a chemical substance very sensitive to light and quickly destroyed. You experience it when you light a match at night and temporarily lose your ability to see. To keep gunners from being subjected to this, Ordnance personnel designed a "bloom shield" for the 50 calibre guns. They proudly proclaimed these shields eliminated 95 per cent of the light from the gun bloom. The shields failed, however, to meet the desired objective because the remaining five per cent was far beyond the amount of light required to destroy the visual purple.

TINTED WINDSHIELDS. Recently there has been a fad of tinting windshields to protect the driver against sun glare. The designers attained their objective, but at the expense of reduced visibility at night and greater eye strain on individuals having certain classes of visual defects which develop with age. This represents a failure to analyze the operator problem thoroughly.

Let us now quickly review several other interesting examples of the need for more scientific consideration of human factors in equipment design.

GAS PEDAL AND BRAKE. We have examined the arrangement of the gas pedal and brake on a number of cars and trucks. In a surprising number of instances, gas pedals and brakes have been placed so close together that if you center your foot on the gas pedal and then attempt to raise it to get to the brake, you will encounter the bottom side of the brake pedal. The driver must, therefore, learn to move his foot in a circular pattern, first to the right and upwards, and then to the left, to reach the brake. This waste motion could result in a serious accident.

CONTROL CENTER. Some time ago we were called upon to redesign the control center for an extraordinarily massive piece of equipment. The design was to consider operator comfort, ease of operation, accuracy and efficiency of operation, the problem of visual and auditory signals, and the possible need for additional information by the operator in using the equipment. The design work required relatively little time, and was accepted by management. The construction of the new control room required a great deal more time and a substantial outlay of funds. Subsequent studies by the client's engineering division indicated that the entire design and construction costs were being recovered every 60 days, as a result of increased production. Unfortunately, I am not at liberty at this time to reveal either the nature of the equipment or the client.

SUMMARY. These examples have been predominantly those of the simplest man-machine systems. In more complicated systems, such as power plants, airports, battleships, the complexity of the problem is greatly increased. But the principles are the same. What can be accomplished in making a stove more functionable can be effected with more complicated systems. It just takes a little longer and we have to work a little harder.

There can be no question about whether "human engineering" equipment is worthwhile. It pays off to the manufacturer in terms of increased sales, fewer rejects and reworks, and less waste, and to the buyer in terms of increased production, greater ease of operation, and greater user satisfaction.

DISCUSSION

(The following question was asked by a member of the audience and answered by the speaker.)

QUESTION: You have shown a number of applications but is there really widespread interest on the part of industry in these human aspects of design?

ANSWER: That is a rather difficult question to answer because of the meaning of the word "widespread." In the thirties, it was difficult to find the few people who were interested. When war broke out and efficiency became of paramount importance, then more people became interested, particularly the military. There was little or no demand from what we ordinarily think of as industry. During and since the war, there has been a steady, rapid increase in the demand for this type of service. This stems from the early interest of the military, and its influence on industrial concerns who were making the equipment for them. At the present time, many military contracts for the manufacture of equipment have a clause that specifies that the contractor will provide full human engineering services.

With regard to industrial concerns who don't have outside pressure from the military, I think I can say that, if you had recorded the number of calls for this type of service say in 1940, 1946, 1948, and 1950, you would find the curve rising at a very rapid rate. You asked me whether it is widespread. I find it difficult to say yes or no to that question. If you think of the growth of interest in this area, there has been a tremendous increase, as has been pointed out previously.

We are concerned fundamentally with two points. The first is operator time. How can he do it faster and easier? The second is cost.

Product Research and Development

By Raymond Spilman
Industrial Designer

PRODUCT Research and Development is probably the most vital force in the materialistic economy of our country. It is the unseen and often unsung basis for management announcements in the field of product progress. The ramifications of the results of R&D are staggering to contemplate when you realize that practically everything you use or touch, is in some way the result of specialized Research & Development.

Among the companies producing consumer products, one of the major items of frustration to the specialized R&D man can be the industrial designer. In many cases, the designer is brought into the development program by management, answers to management, and sometimes seems to completely foul up, what up to that time, appeared to be a very satisfactory development program.

It was suggested that I try to clarify this relationship between the industrial designer, research & development, and management—at least, from the point of view of the consulting industrial designer.

While the men in research & development are making technically feasible new and fabulous mechanical and electronic dreams, the consulting industrial designer and his colleague, the company industrial designer, are unquestionably doing more to change and improve the visual aspect and use characteristics of consumer products than any other one group of professionals in today's field of mass production.

There is not a major consumer product marketed today that does not bear the visible thinking or influence of the industrial designer. This is a measurable truth, and the astounding, and to some annoying, fact is that this effect has been accomplished in less than 25 years, and by a handful of people.

As pointed out in the NEW YORK TIMES recently:

> "The records of industrial designers show widening recognition of design and acceptance of Walter Teague's argument that 'design benefits can be measured in terms of product improvement of several kinds. Design can mean 85% increased suction in a vacuum cleaner, or 400% increase in the sale of an oil heater, or 36% reduction in the weight of a railroad car, or the attraction of 17 million visitors to a dramatized exhibit. Often it means lower production costs.'"

What is the basis for this? Why has it happened? What about all the many other competent and highly specialized personnel who have labored long and hard in the field of R&D with little or no management or public recognition?

Is it any wonder that many highly trained R&D men, as well as some men of management have looked down their well-turned noses at this presumptuous creature who apparently professes all things to all people?

It is occasionally annoying to old hands in Product Research and Development, and many times very confusing to both R&D men and management, when they try to use industrial design as a part of their overall development program. They say "We've always had designers, why are you different?" Therefore, the first step in defining the industrial designer's place is to define the scope of his services.

FUNCTION OF THE INDUSTRIAL DESIGNER. Here is the definition of industrial design we use:

> "The industrial designer is mainly concerned with improving the use, safety, materials, maintenance, ease of handling, colors, appearance and cost, of mass produced products, based upon the physical and mental reaction of the user, whether he be a consumer, or employed in the use of the product. In addition, the industrial designer must be competent to evaluate the problems of function and efficiency in use in such a manner that consumer designs can be created within the cost structure and production limitations of his client."

This statement may sound bold and broad, but as a matter of fact, there is a sound historical basis for today's extensive influence of the industrial designer, and knowing what that basis is should help the future relationship between the designer and other personnel.

The industrial revolution was brought about by the creative engineering mind, in collaboration with the merchandising mind. As time went on, the merchandising mind, being more articulate, achieved domination and became management, and the engineer was forced into the background, with less and less emphasis being placed upon his contribution to the Society in which he lived. Even schools picked up this thinking and for many years, higher engineering education consisted only of technical subjects with the result that the engineer became more and more a specialist, and at the same time, a management outcast, since his knowledge of people was frequently not of a practical nature.

During the first World War, with the mechanization of all armed forces, the relationship of man to the machine again began to assume life and death importance. Because of this, the engineer was called upon to combine the human factor with his engineering program. The awakening of engineers to their total responsibility to the consumer who uses his end product, is now becoming a visible reality in some fields, but will still take time to consummate, due to the highly technical divergence of the field, and the wide variation of standards still existing in educational institutions.

In the middle 20's, the average company engineer was primarily concerned with mechanics and production. The manufacturer was contenting himself with the belief that management's major problem was to hire more salesmen, produce more products, and give the public, to quote a famous line, "any color as long as it is black."

This beautiful relationship, probably over-simplified, between a seller's market, management, sales, and engineering each happily engaged in their separate endeavors, ran headlong into the depression.

Then, due to the depression, the wide gap that had existed between engineering, sales management, and the consumer, left a hole in our economic system wide enough for the whole Notre Dame football team to walk through 11 abreast.

CRUX OF THE PROBLEM. Into this gap in our economic lifeline came Walter Dorwin Teague, Henry Dreyfuss, Harold Van Doren, Russel Wright, and others who were keenly aware of the various movements to humanize the effect of the machine on society. Even the greatest of these, the Bauhaus, was not destined to succeed commercially in these United States. Being well versed in the American system of free enterprise, as well as highly competent artists, they individually arrived at the crux of the problem.

First, our pioneer industrial designers recognized, with management, that the establishment of a sound upward sales curve was the basic management problem.

Second, that with business at its lowest ebb, something new must be added to create mass sales.

This "something new" was the belief that if mass produced products were not only made better looking, but if those products, were made more useful in the consumer mind, and sold at the same price, they would sell, even in a distress market. To their undying credit, and this is of major importance to all of us in research and development, these gentlemen recognized that their ideas were sales weapons, and took them directly to top management. Pardon the reiteration, but this too, is of major importance—these men convinced management that they could interpret the desires of the consumer in relation to the shape and use of the company product, and furthermore, that the visual acceptance of the company product by the consumer, must be a major management concern in the fight to regain lost markets.

Some manufacturers bought the idea out of desperation, but it sold merchandise. Soon, others bought the idea, (though still not without some resistance) until today we find that 90% of all consumer goods, and a surprisingly large percentage of military equipment, bear the in-

delible creative imprint of the industrial designer.

This has taken place in a little over a quarter of a century, at a visual level easily recognized by not only management, but more important, also by the consumer.

Because the industrial designer deals with the complete visual and use effect of a product at the consumer level, his thinking and his work have been newsworthy and subject to widespread publicity, not all of it too accurate or good. But the results of his work, while often misunderstood, were used for Sunday supplements, and he became the layman's ideal of the man who brought beauty and utility into his home.

Naturally, all those research and development men, who knew a great deal more about one scientific subject than the industrial designer, took a long, dim view of the entire profession. They couldn't be blamed for this. It is unfortunate, that so much of their very fine contribution to the public, cannot be easily understood by those who use the results of their work. There is one consolation to the research & development man that he frequently overlooks. That is, that the industrial designer, knowing research and development problems, yet primarily representing the consumer's total viewpoint, is one of the best friends R&D ever had at the management level.

Fine, says the R&D man, nevertheless, just what can be expected in a design and R&D partnership?

Is the industrial designer equipped for basic research on a measurable mathematical basis?

Occasionally, yes. However, for the most part, he is more concerned with product development and research from the time the product is conceived in its earliest physical form, until it is released for production.

Is the industrial designer a specialist? If so, how can he work on so many diverse products?

He is a specialist, and at the same time, a little like the old country doctor insofar as the application of his service is concerned. He is a specialist at the product development level in the visual application of line, color and form, as well as consumer use as it relates to mass produced products having consumer acceptance as a common denominator. For this reason, his work can be applied over a wide range of products having utterly different, simple or complex mechanisms.

The following questions arise and may be answered:

QUESTION: Can the industrial designer operate successfully at lower than management level?

ANSWER: In the final analysis, no; because the end effort of the designer, and the end effort of management, are both primarily involved in achieving the maximum consumer acceptance. Since they have an essentially different set of responsibilities, it is imperative that these critical sales and consumer viewpoints be clarified together at the management level, before production, to insure a unified product acceptance.

QUESTION: Does this mean that the industrial designer cannot work with others, or "down the line" in the company?

ANSWER: Of course not. While eventual design decisions must be at management level, the competent industrial designer is most valuable as a team man. His knowledge to those directly concerned with engineering development is as educational to them, as their research and development is to the designer. The designer, because of his reliance on specialists with highly technical backgrounds, has been one of the greatest advocators of establishing team operations between R&D and management. Only in this way will the end product have that totally integrated appearance of quality so important in today's critical consumer market.

TEAMWORK. Thus, we may sum up this phase of our analysis by concluding that in relation to both research & development, as well as management, the industrial designer represents a bridge connecting R & D to management, through the medium of consumer product acceptance. In addition, and this is vitally important, the industrial designer has the creative ability to add advanced visual thinking to the framework of normal R&D procedures. Therefore, I submit that research and development planners must include industrial design in its planning, and together they should work as a team with management. This I believe, is the only way to develop the integrated, competitive product for today's market. One of the major problems of blending consulting industrial design services into the research and development program is, How to finance the service. Time may change the picture, but at present the majority of industrial designers operate as consultants. Naturally this means that their overhead and direct cost must be included with their fees. The result is that their fees are established on a different basis from inter-company R&D budgets.

Because I felt that this might be of interest to you, I asked the presidents and executive vice-presidents of several middle-sized manufacturing companies how they incorporated consulting industrial design services into the corporate budget.

The consensus of their answers seemed to be this:

Company R&D is generally financed by a percentage of gross or net profits, being set aside for salaries, experimental equipment and models. The exact amount awarded each project depends upon its urgency and the prospective gross return to the company in sales.

R&D overhead, covering space, light and heat, are usually charged against the general company overhead, and, thus, do not become a serious part of the research & development burden.

THREE PATTERNS. Concerning the use of industrial design services, there seem to be three major patterns.

- In companies where a consultant industrial designer is retained on a yearly basis, his retainer fee is part of the R&D budget. However, when the designer's services are required in excess of the service covered by the retainer agreement, management and the designer attempt to evaluate the designer's potential services, against the anticipated net return on a specific project. Because the work of the designer is largely a sales tool, the additional project fee is most frequently taken from the general fund and charged against future business expense.
- In companies employing the industrial designer on a project basis, the budget is set up separately from R&D. As a matter of policy, most R&D men are told or given to believe that the industrial designer is a major outside expense and to use him as sparingly as possible. In some cases, the industrial designer's services are actually deducted from existing assigned funds. At this point, gentlemen, a short course in human relations becomes the order of the day. However, once again the majority of management seems to feel that the fee and cost of the industrial designer should be figured as an additional operating expense from the general fund, that amount to be set aside in proportion to the potential earning power of the product. In some companies where the project is planned far enough ahead, the industrial design budget is included in R & D as a fixed projected expenditure.
- The third method of charging industrial design services occurs in companies employing industrial designers on a full time basis. This phase will be fully developed by Mr. BecVar, so we will not devote more explanation at this time.

SUMMARY. Can we draw any conclusions from this rather limited amount of corporate thinking? I believe we can.

First, it becomes apparent that even budget-wise, the industrial designer is considered a hybrid . . . part research and development and part sales expense.

Second, the specific relationship of the industrial designer to each project must be evaluated separately, then, that relationship examined in respect to the potential sales of the product.

Third, for reasons of morale, it is apparent that funds for the industrial designer should be budgeted in advance, or removed from a general sinking fund rather than assigned budget dollars, whether they be from sales or R & D.

I want to call your attention to a survey of industry made several years ago by the Association of Management Consultants in cooperation with the Society

of Industrial Designers. The specific question to which I refer was two-pronged:

QUESTION: Do you employ the services of an industrial designer on a project or retainer basis?

ANSWER: 56% employed the designer on a project basis, and 44% on a retainer, plus a separate project estimate basis.

The second part of the same question was:

QUESTION: Have you been satisfied with the services of your industrial designer?

ANSWER: In the case of those companies using designers on a *project* basis, some of the companies made limited complaints concerning the relationship between the designer and other R&D personnel. Some cited lack of familiarity with the company's policies, and said that the fees seemed high in proportion to the amount of their normal R&D budget.

On the other hand, those companies retaining industrial designers on a continuing basis, uniformly felt that they were receiving value for their money and there were no personality problems beyond the normal human differences and adjustments. The designer became part of the combined team of R&D, plus management, to the benefit of all concerned. It is interesting to note that the art editor of the NEW YORK TIMES, Aline Loucheim, in an article on industrial design, had this to say:

> "If business in America sincerely believes it has a cultural responsibility the way to discharge it seems obvious. The influence of form and beauty in physical environment is a paramount factor in developing taste and raising the cultural level of a people. And it may well be that in esthetic fields, as in other ones, that things commonly thought to 'be over the heads of the people' are really what they want.
>
> "It would seem that business can best perform a real and lasting cultural boom if it forgets unrelated, sporadic and undependable patronage of easel painting, and *concentrates on art which gives vitality and meaning to its own services or manufactures, and pleasure to the people who see and use them.* Business and art can meet purposefully and constructively through the institution of . . . integrated, complete and tasteful design programs."

In the final analysis, the difference between a mechanically measured development program and that same program, enriched by the experienced visual, creative ability of the qualified industrial designer, whether he be a consultant or member of your own company is oftentimes the difference between moderate and outstanding product success.

The responsibility for putting together this devil's brew called R&D is, and essentially must be, management's. Allow me to leave you with this one thought: Blend the ingredients all together, season them with knowledge, tolerance, experience and creative ability, and product success through greater sales shall be your reward.

Industrial Engineering Instruments Of Design

By John L. Schwab

President, John L. Schwab Associates

IT has long been my sincere belief that industrial engineering instruments and procedures can provide to all designers another new and basically scientific approach to their work, thereby creating a minor and perhaps major revolution in design concepts.

This statement may sound strong—in fact, rash. A word of explanation is therefore proper at this time. I believe the following statements, presented in logical order, will serve this purpose and bear out my conclusion:

I. To design is to plan, develop, or lay out a product with a knowledge of the end results to be achieved.

II. End results are both technical and human in nature. Technical results are those such as mechanical function, physical performance, durability, material cost, and the like. Of equal importance, as so ably brought out by Dr. Dunlap, are the human effects or results such as product use by humans, safety, labor cost, style appeal, etc.

III. End results of a technical nature can be and are being predetermined by designers through use of the engineering sciences which are based on understood and accepted systems of measurement of a tangible and objective nature such as the inch, the second, the foot-pound, and the ohm.

IV. End results from the human side have, until recently, been determined after the fact. The sole means available for predetermining these results has been designer's judgement, based upon his previous experiences.

V. Industrial engineers have been highly successful in the development of systems of predetermined time measurement for accurately predicting the results of human effort. The results achieved through use of the data indicate that the designer now has available a tool for predicting and predetermining the end results of his design from the human standpoint.

VI. Is it not reasonable, therefore, to expect the same tremendous progress in design practice through use of these newly developed and proven measurements of human effort, as that which has been achieved through the use of the measurements for the physical and engineering sciences?

It requires but little imagination to appreciate the tremendous benefits which the designer can provide society through use of predetermined time measurements. Let us consider only a few at this time:

I. The designer could accurately predetermine the most economical product design from the standpoint of labor cost. Hence, later expensive, time consuming and irritating design changes to reduce the costs would be minimized.

II. Suggested design changes for general manufacturing improvement and cost reduction could be thoroughly and factually evaluated, before a change was made. Thus, errors in judgement and time-consuming argumentations could be reduced.

III. Complete manufacturing costs could be determined at the design stage. This would allow a more precise predetermination of costs, selling prices and hence market possibilities.

IV. The design engineer could quickly and accurately incorporate into his designs advanced features for safer, more efficient, less fatiguing, and more quickly learned methods of operation and maintenance.

V. With the design based upon such definite methods for use of the product, preparation of a true operating manual would become little more than presentation of these same methods in an instructive manner. Such an almost automatic duplication of the designer's own material would insure full benefits through use and operation of the product.

VI. With the means for assaying the ultimate use of his product from the human standpoint, the designer would become more and more conscious of the importance of this factor in design. On this basis, the human results achieved would no longer be the by-product of the process.

MTM AND ITS USE BY THE DESIGNER. **There are a number of predetermined motion-time techniques which are widely used and accepted, such as Motion Time Analysis, Work Factor, Methods-Time Measurement, and the like. Since I am most familiar with MTM, I will describe it and its use by the designer.**

Methods-Time Measurement is defined

as "A procedure which analyzes any manual operation or method into the basic motions required to perform it, and it assigns to each motion a predetermined time standard which is determined by the nature of the motion and the conditions under which it is made."

From this definition it can be seen that the procedure has established basic work motions and the time required for their performance to serve as a basis of measurement for any manual operation. In addition, it establishes the laws and concepts of how and why motion patterns are made by persons of normal mental and physical qualifications.

From this description it can be seen that the Methods-Time Measurement procedure consists not only of data tables which establish the normal time for every given type of motion under varying conditions; but it also establishes the laws as to the sequences these motions will follow in much the same manner as the laws of chemistry or physics explain mathematically the expected material results which will be encountered under varying physical conditions.

The Methods-Time Measurement data establishes seven movements of the hands and arms, and nine movements of the legs and body. Thus, there are 16 fundamental motions to be considered in the establishment of any given motion pattern. The time for each of these motions is determined not only by the physical conditions involved in the motion's performance, but also by the nature of the conditions under which it is made. Thus, the time for a given motion is a combination of physical and mental conditions.

The laws governing the usage of the motions in the Methods-Time Measurement technique (their sequences and combinations) have been called the Principles of Limiting Motions. By a detailed observation and analyses of wide varieties of people in the industrial and business world, it has been determined that a physically and mentally qualified operator can perform certain motions simultaneously; while others cannot be performed in this manner. This information has been carefully established and, as a result of wide usage, has apparently held true.

It should be stressed, however, that these laws are equally as important as the time data tables, for regardless of the accuracy of the standards established for individual motions, the job standard which is determined from their application will be inaccurate if the principles of limiting motions are not taken into consideration.

THE ENGINEERING APPROACH. The use of the Methods-Time Measurement procedure by the design engineer follows exactly the same basic pattern as that used for solving any engineering problem. The steps taken are:

I. A systematic analysis is made of ideas for performing a given job.
II. Applications of the measurement are made to the ideas.
III. Mathematical computations are made to determine the human result which will be achieved if the idea is physically created.

This approach parallels the steps taken by the mechanical engineer in designing a new type of equipment. Beginning with a knowledge of the technical result which he wishes to achieve, he begins constructing mental patterns of the form which the equipment will take. Then, by using the known and established measurements of mechanical engineering and physics he establishes one or more designs of the contemplated equipment which will produce the desired result. When his ideas have been fully jelled (guided obviously by the measurements which he has applied during the machine's development) he knows in advance the technical results which the machine will produce when constructed.

With the Methods-Time Measurement procedure the design engineer follows the same approach in predetermining the results of human effort required to produce or operate his design. He visualizes one or more ways of manufacturing and/or operating his design. In every case, he is concerned with the method of performing each given manual operation in both making and using the item. By application of the measurement data and the principles of limiting motions he is able to determine in advance quantities to be produced and methods of use before manufacture is begun. Thus, the design engineer has truly engineered the product from a human as well as a technical basis and both end results are known in advance.

Designers are already actively using predetermined motion time systems as previously described. The following specific cases are given as indications of possible uses.

I. A complete chemical manufacturing operation was redesigned by the equipment designers and layout engineers to reduce maintenance and equipment service costs. MTM was used to determine more effective maintenance methods and the equipment redesigned and relocated to enable these methods to be followed. Net savings were calculated in advance, obviously, and the project was authorized on the basis of these findings.

II. A $250,000 automatic loading machine was analyzed by MTM while in the blueprint stage and, as a result of findings made, it was indicated that operating costs could be lowered eight per cent. The design was then modified to incorporate these changes.

III. Two tool designers made a labor cost analysis of all punch and die designs in a large metal stamping plant in less than one week. A factual cost savings was then determined and a sound priority system for modifying the dies begun.

IV. Many large companies are using possible labor savings resulting from the use of their product as a selling and advertising tool.

One large equipment manufacturer maintains a staff of MTM engineers to factually prove to prospective buyers the advantages of their equipment over that of their competitors.

Another large manufacturer has been publishing the MTM patterns which illustrate the time savings possible through use of their product.

This list could be extended indefinitely by telling of the use of MTM in redesigning equipment for use by disabled persons, for redesigning methods and shop layouts for safety, and even one case where it was used to develop a new design for wearing apparel. I'm certain that the audience could also add immeasurably to the list, hence further elaboration is unnecessary.

SUMMARY. Let me summarize, therefore, with these thoughts:

I. A product without man to operate or enjoy it is useless. Therefore, our designers must recognize the human side of design as equally important as the technical side.
II. Progress and advancement can only begin and continue from a basic reference point. Measurements, acceptable, understood and consistent, are the reference points of science.
III. Measurement of human effort is the reference point from which reason, understanding and progress evolve to fulfill the human demands of our products and processes.
IV. The primary instruments of Industrial Engineering are measurements of human effort. They must also be the instruments of our designers.

Rapid progress has been made in this quest over the past few years and I am confident that this progress will accelerate, for the development and use of an understandable, acceptable, consistent, reproducible and objective measurement of human effort is the first step towards making management a true science. Knowing the benefits which humanity can realize once this objective has been reached, it becomes a quest which all of us who wish to contribute to the betterment of mankind must pursue with all spiritual, physical and mental effort at our command.

DISCUSSION

(The following question was asked by a member of the audience and answered by the speaker.)

QUESTION: How do industrial designers take into consideration such things as ability to make a product especially from a tooling-up aspect?

ANSWER: It is a difficult, if not impossible, task for the designer to consider ease and economy of manufacture in necessary detail, without a tool such as the ones mentioned during my presentation. It is of utmost importance, however, that they be able to make these considerations from a productivity, cost and operator satisfaction standpoint.

The ability of the designers to predetermine time and incorporate the results into the designs of manufactured components can result in tremendous cost savings. One large company, for example, achieved a $300,000 gross yearly labor savings through modification of component part and tool redesigns resulting from the application of a predetermined motion time system. However, I am certain that the application of this same tool to visualized rather than existing situations would have resulted in the $300,000 being a net, rather than a gross, savings. In addition, the human problems always encountered in making changes in methods, procedures and production levels because of resistance to change would have been greatly reduced.

To emphasize Dr. Dunlap's remarks, I venture the opinion that the greatest possible field of cost reduction lies in the understanding and application of the human aspects of design. To illustrate the point, the time required to assemble this cigarette lighter is 72% mental and 28% physical. Obviously, the greater area for time and cost reduction would lie in the mental or human aspects. This same relationship holds true, in general, in typical industrial operations except for a very few crude labor jobs. It is becoming more and more apparent that man's mind, rather than his body, is the governing factor in productivity.

Coordinating Design At The Executive Level

By Arthur N. BecVar

Manager, Product Planning, General Electric Company

I SHOULD like to discuss with you some reasons why design is one of the determining elements of success in a product, and how the method of handling it by coordinating design at the executive level affects the results.

In the General Electric Company, we have found that "design" is extremely important to the sale and satisfaction of the product. "Design," however, is a term that is used freely and means many things to many people. In the manufacturing plant, "design" applies to the engineering area, but the general public considers design as incorporating both the outward manifestations of engineering and the appearance characteristics of a product. Consequently, "good design" is beneficial to a product because it insures greater satisfaction to the customer, and also it helps the manufacturer sell his product. "Good design" expresses the quality and excellence of a product. For example, the mechanical parts of a product can be excellent, but if some of the structure does not reflect the same quality, such as a thin door or flimsy latch, the whole product is not considered of high quality level by the average consumer. The whole unit is judged. The public recognizes only the outward appearance of good engineering as part of design through quiet operation, long life, ease of control, and ease of maintenance.

It is interesting to consider what a product would be like if designed solely by the engineer, the manufacturing man, the finance man, the product service man, the salesman, or the industrial designer. "Good design" requires the collaboration of each of the above men. If design is dictated by any one of them, a distorted product would result because each specialist would unconsciously emphasize his own area of work. It is important that all concerned with the product start on equal terms at the inception of the program so that each can argue for and agree upon the necessary contributions of each other. The final coordination must be guided at management level to balance and properly weigh each factor.

You will remember in the early days of our company, we produced a refrigerator called the "Monitor Top." The unit was mounted on the top. From an engineering viewpoint, this was and still is a very sound engineering principle. The cleanability of this design and its appearance soon pointed to the customer preference of putting the unit in the base and making a simple straightforward cabinet that would fit into the present concept of a kitchen.

You may be interested to know how we are set up to meet this problem of coordinating design in our company. In our Major Appliance Division, this coordinating responsibility is assigned to a Manager of Product Planning, both at the staff and department levels. They are responsible for the following:

I. establishing pricing objectives
II. preparing and maintaining a competitive analysis
III. preparing a product plan that sets commercial specifications
IV. using market research and consumer research to pretest our products
V. coordinating time schedules and objectives

WHAT PRODUCT PLANNING IS. One of the most important elements in the major appliance business is having a product that is equal to or in advance of competition measured by consumer acceptance. It must be available at the proper time and be manufactured and sold to yield a reasonable profit.

It is a continuous collection, recording, and evaluation of all product information. Everyone in our business contributes the talents, ideas, and the facts related to our products. As you see in this chart, it is the funneling of this collection down to a specific product plan that integrates the marketing requirements with engineering development and manufacturing methods to consumer needs at the prices he will pay. Pricing, competitive features, new technology, new features and appearance are analyzed and focused on "next year's product."

During this funneling process, a line is drawn, and a specific product plan for five years is recorded. The product plan is fluid in the projected years, but as it approaches the present model year, it becomes a locked-up program with a definite time schedule starting with specifications, development, laboratory evaluation, consumer pretest, final design, tooling, and production. It does not stop there, for "Nothing is accomplished unless it goes to Mrs. Consumer. She likes it; she wants it; she buys it; she's satisfied!"

We are continuously finding out through market research the objectives that will satisfy the market. These specifications are then turned over to specialists who develop these requirements into the design, engineering, and manufactured product. This is when the appearance designer, the engineer, and the manufacturing man develop the best solutions to contours, textures, safety elements, convenience aspects, sales appeal, and ease of maintenance and service of the product.

It seems that products pass through the following stages in their lifetime: pioneering, competitive, retentive, and declining.

We can all appreciate that design is relatively more important in certain products than it is in others. No product escapes the influence of good design. Good design is considerably more important in the competitive and retentive stages principally because they are the periods when all things are most equal, and it is then that the customer is influenced by "good design."

What happens when a new product is introduced to the market in terms of public acceptance? Initially, if it contributes a real consumer service and need, it rises high in public acceptance. But that unique spot is held for only a short time because competition very quickly moves in and equalizes the gain. Thus, it starts to de-

cline until another basic change makes it rise again in public acceptance. Competition again equalizes it, and, thus, this general curve is followed during the life of the product.

Major changes usually involve new tools and plant layout; consequently, these basic changes are introduced not every year, but about every three to five years. It becomes imperative to use other methods during the "in between" years to build up public acceptance. These are the years when it is necessary to have advanced features added, new appearance with minor tool changes, and color changes to spark-up the product.

This timing chart gives you an indication of the kind of thing we are relating to our Product Planning programs to make sure that our lines will be new and fresh and exciting and appealing every year (See Figure 1).

Our executives realize that the modern marketing organization requires a high degree of sensitivity to changing conditions and an ability to adjust quickly to them. Marketing dictates that the product be suited to market conditions at a specific time and at a specific price, and with product qualities which will meet volume reaction in the market satisfactorily.

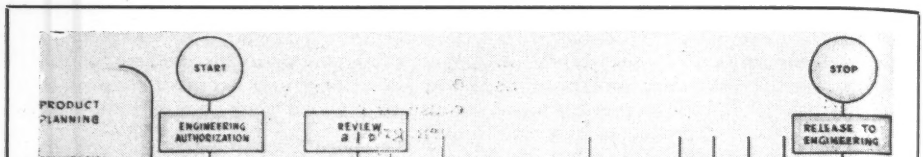

FIGURE 1—Timing Chart

ORIGIN OF PRESENT APPEARANCE DESIGN POLICY. Appearance Design is an important function, necessary in the development of consumer goods if it is to gain volume acceptance. This department in the General Electric Company is, therefore, responsible to the executive in charge of marketing through the Manager of Product Planning.

During the first 30 years of its existence, the General Electric Company manufactured products whose appearance had little effect on the volume of sales in its products.

Pioneers in our company like Thomas Edison and Charles Steinmetz were interested in the "application of electricity" to devices which would generate, transmit and use electricity in industry. This was done without too much regard to the appearance of the apparatus.

In the 1920's, Gerard Swope, then President of the General Electric Company, recognized the fact that the continued growth of the electrical industry would be dependent on the application of electrical equipment in the home as well as in industry. Therefore, he decided that more attention would have to be paid to the development, engineering, and manufacturing of consumer goods, such as home appliances.

In the early years of the development of such home appliances as the refrigerator, range, washing machine and flat iron, General Electric's greatest interest continued to center around the objective of making sturdy and serviceable appliances with efficiency and performance the chief criteria of good design.

Appearance Design specialization within the General Electric Company began in 1928 with one industrial designer and a very small staff. The results of this man's efforts to improve the appearance of consumer goods met with good acceptance that the staff and facilities were gradually increased in size and scope.

Soon this Appearance Design Department was asked, because of increased competition in industrial lines, to make appearance recommendations on some of the company's capital goods equipment, such as electric locomotives, turbines, motors, instruments and other diversified products manufactured by the various divisions of the company. As the value of appearance design study became better recognized, Appearance Design departments were established in various divisions of the company. From the one man retained on appearance design problems, the personnel has developed into a well-staffed company department in each division of the company.

RESPONSIBILITY FOR CARRYING OUT PRESENT APPEARANCE DESIGN POLICY. In each division of the company, there is a Manager of Appearance Design, responsible to the Manager of Product Planning. He is responsible for the appearance recommendations on the products of that particular division. However, to insure insofar as is possible and desirable, a General Electric family likeness among our products, the Manager of Product Planning of the overall company marketing services division promotes the interchange of information for controlling and coordinating these objectives.

Within each operating division of General Electric, Appearance Design works most intimately with Product Planning, Marketing Research and Engineering.

Product Planning is primarily an analytical function involving the determination of what products will most profitably meet market needs. Market demands and competitive conditions are constantly changing and require corresponding modification of the product. The customer has shown in his selection of products that his purchase is influenced by the effect of pleasing design. Utility products such as those that are used in the kitchen and laundry must have eye appeal as well as utility, since they have become more closely related to the living area. With an open-floor plan becoming more popular in American houses, all the equipment must be attractive and contribute to enjoyable surroundings.

These buying trends also extend to non-luxury lines of products. Capital goods equipment now is placed in attractive, colorful factory areas and is subject to the same appearance design study.

Marketing Research continually checks the product for consumer acceptance. New ideas and designs are tested on groups of people in various geographical locations, and varied income groups to determine whether a new design has what they want and desire.

Engineering is responsible for the basic design of the product, its materials, construction, and performance. General Electric scientists and research engineers are continually pioneering new materials, processes, and new product functions for better living at less cost.

During the past 30 years, the American consumer has, in his selection of products, given evidence of his desire for good design. Today the consumer's interest in the appearance of a product has increased to the point where manufacturers of consumer goods must devote as much attention to characteristics of color harmony, fitness and simplicity, as to new features of performance and utility. Major redesigns are undertaken when new technology has shown the way to obtain improved designs giving greater value to the consumer. It is the function of Appearance Design to make these products attractive and most suitable functionally.

To obtain the necessary eye appeal, the Appearance Designer must give due consideration to other factors affecting the consumer—convenience of use, care and simplicity of operation of the product.

In the schedule of planning our products, Appearance Design works with Engineering before the mechanical design is frozen to get the best location of controls and operating features from the user's viewpoint. Under the stimulus of Appearance Design, basic structural changes may be indicated to achieve a harmonious appearance. It has often happened that a structure is worked out which is both new and economical as the result of the engineering search to find a new technique to accomplish both objectives. Harmonious coordination with engineering and the exploring of all approaches make possible the most favorable relationship of forms and components to get the best appearance.

APPEARANCE DESIGN ORGANIZATION. Since the General Electric Company is engaged in producing both capital and consumer goods, I should like to give you an example of how Appearance Design functions in one division of the company: namely, the Major Appliance Division, which produces ranges, freezers, water heaters, dishwashers and sinks, washing machines, dryers and ironers, and refrigerators.

The Appearance Design Department is composed of the following creative personnel: Designing Manager and Designers of each line of products. Also two model shops, one manned by sculptors devoted to creative clay or plastacine modeling and the other manned by skilled model makers, working in plaster of Paris, metal, wood, plastics and finishing techniques—a total of 46 people.

A separate section of Advance Appearance Design is devoted to "projected design," that is, product designs of the future. The design approach in this activity is one toward the "ideal design" disregarding our current limitations imposed by present engineering or manufacturing facility considerations. This type of design has value in stimulating new thinking; fundamental, even radical approaches to product function. This is product insurance for the future.

The Appearance Design Department is a self-liquidating type of operation, the cost being billed to each department for the work done on an hourly basis. Since it is a service which each department can buy, and not one that is arbitrarily assessed against them, the constant yearly growth of the department shows that this is a very satisfactory means of operation.

A small number of industrialists have considered that Appearance Design efforts are simply a move to add trim or ornamentation to a product without any purpose. Some have expressed the thought that the cost of industrial design and the increase in price for the addition of these design features are not justified.

We believe that the form and function of our appliances are well integrated and represent sound design principles. I should like to point out that for a volume market of mass manufacture, the cost of appearance design is negligible. We do, however, recognize the very serious problem especially as it pertains to changes or design which mean extensive retooling in the face of small production.

APPEARANCE DESIGN PROCEDURE. Let me give you an example of how we handle the design of a product that requires a yearly design change. This is the routine of our procedure for initial product planning.

Product Planning calls a meeting with Sales, Engineering, Manufacturing and Appearance Design to determine the objectives of the new line and to establish a product plan.

New engineering developments, required features, costs, and general appearance objectives are discussed. Dates are established that determine the schedule of appearance design in relation to engineering drawings, test models, pre-production runs and production dates. This meeting establishes a very realistic program of all the requirements to produce a new product at a specific date.

With this information, appearance design sketches are made and many design themes are drawn in rough form. This is a search for new design approaches, new concepts; and this is really the important period of concentrated design expression. These design ideas are all reviewed in order to select two or three ideas for further development.

At times, we have made up finished perspective drawings of the designs for discussion with representatives of Sales, Manufacturing, and Engineering. However, we have learned from past experience that beautifully colored perspective drawings can be very misleading in evaluating a design. Consequently, our design procedure requires three dimensional study. The design ideas are translated into full size clay models.

Only in this clay form can we properly analyze the proportion, contour, texture and character of the design. These studies are reviewed with engineering and manufacturing to determine whether they are within the limits of electrical and mechanical requirements.

Finished full size models are then made. This final step of design work is the most important, for here we translate the design concepts into its most refined form, the actual object to evaluate. Consequently, we insist on the highest degree of model craftsmanship and every detail is given the ultimate designer's touch. The plaster of Paris parts are finished with every degree of contour subtlety and then surface-painted to perfection. All metal trim and accessory parts are hand fashioned by expert metal workers. The result is always the finest expression of craftsmanship that it is possible to produce.

We feel that much effort should be expended on this final model, for this represents the product goal. It gives manufacturing a prototype desirable to achieve.

The appearance is thoroughly tested for consumer acceptance. It must be determined that the new model has acceptance in relation to present production and in relation to competition.

Sometimes a conflict occurs between what the designer regards as right and what the public thinks it wants as evidenced by samples of opinion taken by Market Research. Perhaps this conflict is only a matter of timing. A design is presented for example, that Research indicates is not at the moment most popular, but under market stimulation becomes so because it is "basically right." Our efforts are always directed toward the objective of meeting the requirements of the real arbiter of American design: namely, the customer.

This model is then revised with the department manager, who in turn, submits it to the "Product Review Committee" as one he feels meets all the market conditions.

The "Product Review Committee" is a management committee, consisting of the staff managers of marketing, sales planning, product planning, engineering, manufacturing, and the comptroller. This committee reviews all aspects of each product to be produced. Upon receipt of their approval, manufacturing drawings are released. Thus, not only is the basic engineering tested to insure its efficiency, but the marketing qualities tested to be sure that the product will sell.

SUMMARY. I have emphasized the functioning of the marketing plan within the General Electric Company because our design policy is so closely related to the marketing objectives. It is our belief that our products must be designed with a purpose and that purpose is to meet a specific market, at the right price, with the most desirable product qualities. These elements form the guide posts for Appearance Design. You can have the best product in the world, but if it does not combine the basic engineering technology with the right marketing characteristics, the mass of customers will not want it.

The responsibility of design is important when we recognize its place in the marketing plan necessary to distribute quality products to mass markets.

I believe with conviction that we who are concerned with coordinating design at the executive level are in a position to make a great contribution to the industries with which we are associated and to the pleasure and satisfaction of the customer users of our products.

DISCUSSION

(The following questions were asked from the audience and answered by the speaker.)

QUESTION: Who is the chairman of the Product Review Committee?

ANSWER: The chairman is the Manager of Marketing. In our consumer goods company, we feel that a great responsibility falls on the shoulders of the Marketing Manager in our concept of things because we feel we can engineer anything he requires. The question is: What will sell in the market, at what quantity, and at what price?

QUESTION: You mentioned a model shop in which you use plastics. Are you using that model shop to facilitate the determination of the manufacturing feasibility of new products, to study joint use of metals in plastics, or to study what you can do with certain substances?

ANSWER: I wasn't referring to such shops. We do have such shops. This is related to specific design study. We place great emphasis on making as perfect a model as we can humanly do with gifted craftsmen in all of the materials because we think that the appearance design model should be a prototype for the plant to shoot at. In other words, we get the ideal jointly, and we take minimum talent to try to get the factory to produce the best type of thing that would be possible with the best finishes. We always give them something a little beyond their grasp, thinking that it will, and it has, I believe, resulted in a finer end job from the factory standpoint.

QUESTION: I do agree with Mr. Bec-Var about the design shops setting a goal for the factory. I would like to know what are the two dates that you set up of the time given engineering to go ahead to release to the factory for shop production? I am in charge of manufacturing.

ANSWER: Just as you find anyone of us argue for the area in which he is interested, we find that this is true not only of manufacturing, but the whole design, engineering, and manufacturing process. We find that sufficient time is the big difficulty. That is the whole reason I made up this chart. We set up in each of our departments with their management group these time limits. We can't take the attitude that we don't have time, because we do have a release date on the drawings, and we do have a date when the product must be in the market. We come to the position that unless we have accomplished all these steps, we will not end up with the proper results in the necessary time.

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QUESTION: How do you determine what time, number of months, days and weeks?

ANSWER: Well, it will vary for each type of product. If we are going to do a complete retooling job, a refrigerator, that period would be two years. If it is a yearly change, it is a year in advance. We are normally working at least a year in advance.

QUESTION: Where is the functional design during this time? Is that nearly finished before you start, or does it go concurrently, or what?

ANSWER: Maybe I didn't make my point clear. In the early days of our company, we placed great emphasis on just making good rugged products for specified services, and I think it was one thing that brought our company to a relatively high stature, but our concept now is that we have to do that and more. We start by finding what needs or services people want the most and about what they will pay for such services. We put our engineering organization to work in that direction. We have some very able engineers and they can figure out how to make an automatic whatnot, but our marketing research may find out that that type of market doesn't look to be a potentially profitable market. We have put great emphasis in the marketing organization to find out what products we should produce and then with specifications that will contribute the most to the consumer. Those are fed to the engineering organization to develop them. New products and services are invented and developed by our research laboratories that develop basic new ways of doing things, and they may stimulate us in new directions and new products.

Of course, we have great strength in engineering and when new things are invented and make for a better product we feed those into our product plan. That is why I pointed to the timing chart. From a marketing standpoint when we have invented a new and better product, we look to see when it will fit into our product plan. Is it 1960 before it is perfected? We then make a point of finding out what we are going to do between 1950 and 1960. What are the important changes between those dates?

QUESTION: I had the impression you were talking about appearance and made no specific reference to the cabinets, let us say. Was that the wrong impression?

ANSWER: I did speak partly of appearance in organization, but I wanted to convey this product planning concept. We do include all the elements, engineering, appearance, and manufacturing techniques. If we have a new way of manufacturing that gives lower costs; those are all fed into the timing chart and determine what we do in the given years.

Looking Ahead—A Challenge

CERTAIN impressions stand out as one thinks about the ideas and concepts developed in the preceding papers presented at the 1952 SAM Annual Fall Conference. The authors, a group of professional leaders, drawn from such varied fields as business, education, government and consulting were concerned with the advancement of the science and art of management. Together they noted the progress being made, the problems remaining and the opportunities for moving ahead in the future.

This challenge to management covers a wide range — automation, the complexity of raw materials resources, dealing with difficult personalities, and the importance of preserving the integrity of the individual during the course of executive development. A few of the varied aspects of this challenge include: the need for sound long-term planning, more effective Conference leadership, disciplined thinking as a basis for communications, and a clearer understanding of the executive personality.

There are four basic approaches evident throughout these papers that can prove effective in meeting the challenge. The first approach was the emphasis on the MAN in MANagement, as a running theme throughout the Conference. Participation, understanding, acceptance and satisfaction of the individual, irrespective of his place in the organization are reiterated. The need for a sense of purpose and enlightened self interest is pointed out repeatedly. Product designs that recognize the limitations of human beings and labor relations policies and practices that meet the fundamental nature of the human environment are emphasized. When forecasting and analysis of the probable trend of business are discussed, due consideration is given to the human factors involved. The importance of understanding complex human inter-relationships was recognized as a primary factor in successful incentives work and market determination. These are only a few illustrations of the underlying emphasis on the human relations approach in the PROCEEDINGS.

The second basic approach is the constant plea for a return to principles. Executive development is considered in terms of democratic foundations. There is a plea for a return to the sound principles underlying marketing research. Principles of teamwork are pointed up as an essential factor in more effective management. The planning, on which the future development of a business depends, rests on fundamental principles.

More effective integration between the business enterprise and other institutions was urged by numerous speakers. Executive development in its broader sense requires much closer integration with education, government, the international scene and society as a whole. True executive development provides for "reaching out" to the business press, the consultants and the professional societies. This integration comprises a third approach available to management in meeting the challenge it faces.

Research is the fourth approach available to management in meeting the challenge. The eternal search for more facts and better ways to use them is implicit in the discussions on forecasting and marketing determination. It is evident that research is at the very heart of planning. Research is fundamental to good product design. In the human relations field, speaker after speaker noted areas requiring additional knowledge. Management, as it continues to move ahead, is dependent on ever increasing research effort.

These four approaches — a better understanding of human relations together with more effective application of this knowledge, a return to principles, increased integration, and more effective research — provide the means for management to meet the challenge of the future.

The PROCEEDINGS, taken as a whole, illustrate the continued advancement of management. The growing recognition of the social responsibilities inherent in management is evidence of a deeper understanding and appreciation of its meaning. The broadening scope of management is evident in its varied application to the wide range of functional activities discussed during the Conference. This deeper understanding and appreciation coupled with the wider application of management is an encouraging aspect.

As one reads these outstanding papers, he feels grateful to each of the individual contributors who gave so generously of their time and effort in thinking through and preparing their respective contributions. Appreciation is also due the members of the Conference Committee who likewise gave unselfishly of their time and effort in building the program, securing the speakers and carrying the Conference through to its successful conclusion.

The Conference Committee included:

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ADVANCED MANAGEMENT

FEBRUARY CHAPTER ACTIVITIES*

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Atlanta	Modern Management Methods	Robert Mason	Project Manager, Savannah River Operations, E. I. Dupont Co.		12
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Bridgeport	Social and Economic Effect of Current Labor Management Policies	Prof. Paul Pigors	M. I. T.		10
Central Penna.	Industrial Operations Research	Prof. C. E. Bullinger	Head, Industrial Engineering Dept., Penn. State College	State College	19
Chicago	What Specific Means Can Be Used to Measure the Value of the Industrial Engineering Department to Management	Godfrey H. Kurtz	President, Industrial Engineering College		10
Cincinnati	The Future of Management—Union Relations	Clinton S. Golden	Executive Director, Trade Union Program, Harvard University	Hotel Alms	5
Detroit	Human Aspects of Industrial Engineering	Ralph Presgrave	Vice Pres., J. D. Woods & Gordon		3
Greensboro	The New Look in Economics	Alvin Wingfield, Jr.	Manager, Royal Typewriter Co.	Starmount Country Club	17
Greenville	What Makes a Successful Executive?	Russell De Young	Vice President, Goodyear Tire and Rubber Co.	Hotel Greenville	11
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Manchester	Personnel Management	Stephen H. Fuller	Asst. Prof., Business Administration, Harvard Graduate School of Business	Carpenter Hotel	4
Milwaukee	Economic Trends	Rex Reeded	Vice President, Marine National Exchange Bank	E.S.M. Building, 3112 W. Highland Ave.	12
Montreal	Trends in Labour Thinking and Objectives	Pat Conroy	Labour Attaché, Canadian Embassy, Washington, D. C.	Blue Room, Ritz Carlton Hotel	11
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	Round Table—Property Management Activities	Gustave A. Moe D. C. Downs	General Services Administration Stern Office Furniture Co.	National Archives Conf. Room	3
	Round Table—Employee Contributions to Management Improvement	John E. Moore Harry Schwartz	Department of Defense The Hecht Co.	Federal Personnel Council	5
	Round Table—Scientific Management in the Home	R. K. Friedman Catherine Morhard	Department of Defense	Dept'l Aud.—Conference Room A	12
	Round Table—Financial Management	Karney A. Brasfield Robert E. Harvey	General Accounting Office Capital Transit Co.	National Archives Conf. Room	17
	Round Table—Organization and Management Methods in Business and Government	John J. Corson Ross S. Shearer	McKinsey & Co. Economic Stabilization Agency	Federal Personnel Council	17
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Wilkes-Barre	Incentive Management	James F. Lincoln	President, The Lincoln Electric Co.	The Stines, Butler Valley on Route 309 to Hazelton	2
Wilmington	Management Engineering Applied to Sales	Noble Hall	Manager, Sales Research, The Atlantic Refining Co.	Hob Tea Room, Delaware Trust Bldg.	3

* This is a summary of the Chapter activities reported. Programs of the other 25 will be listed upon receipt.

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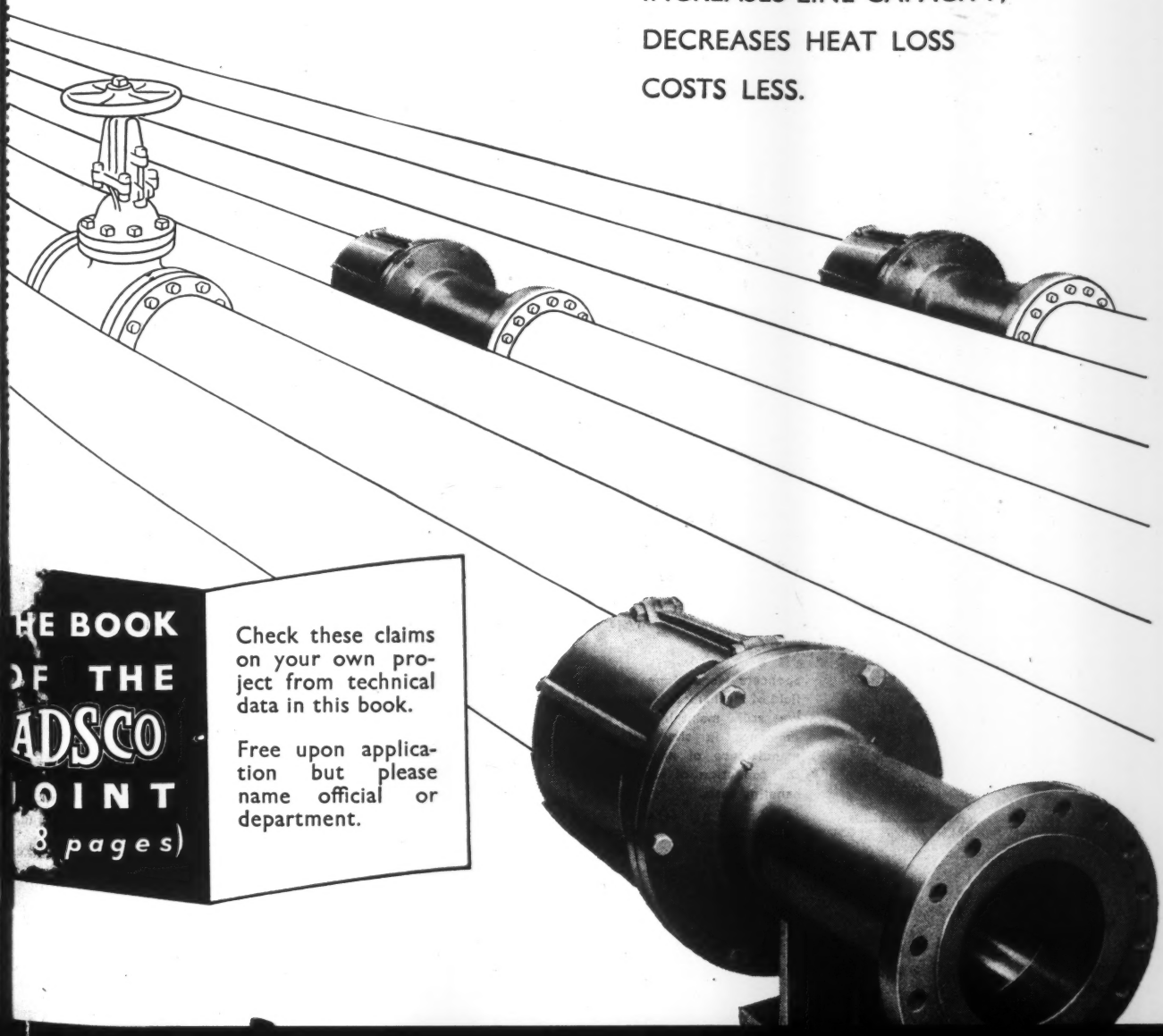

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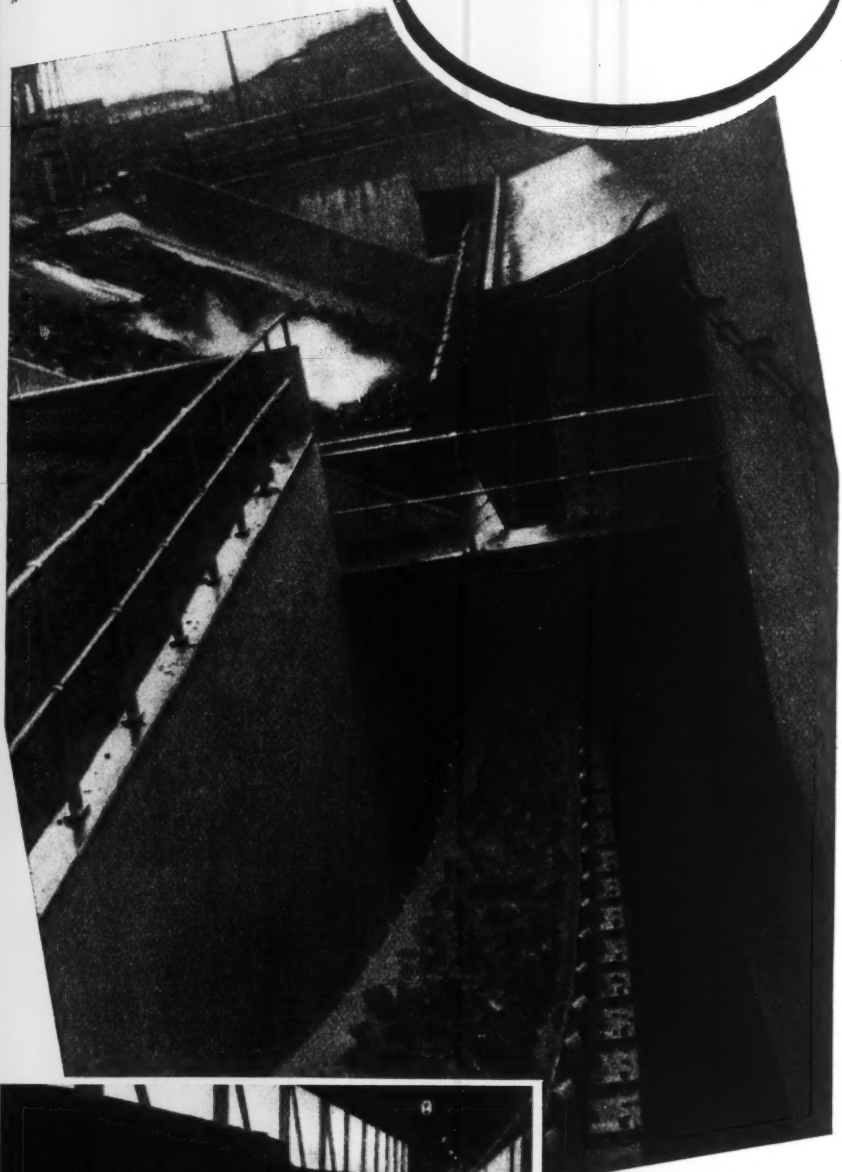

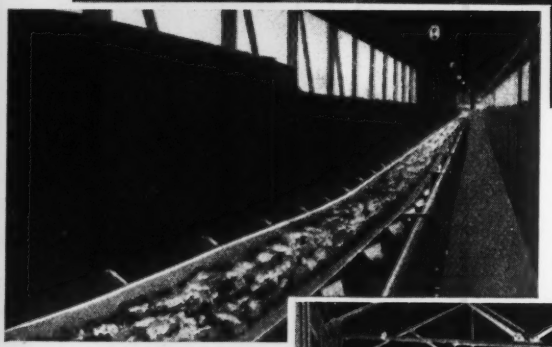

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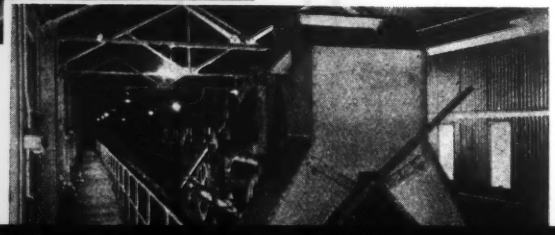

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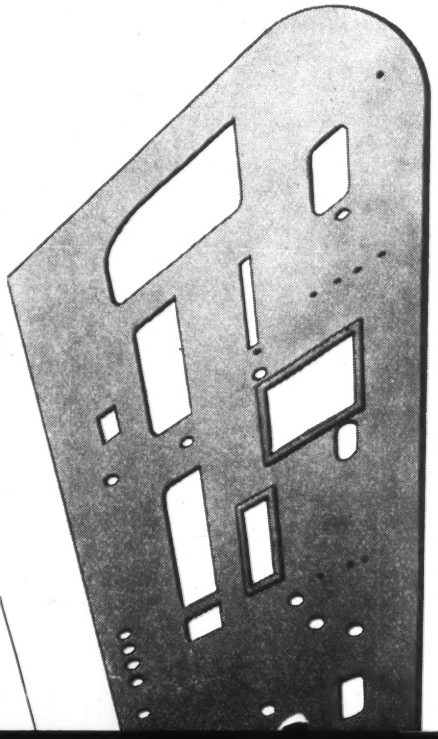

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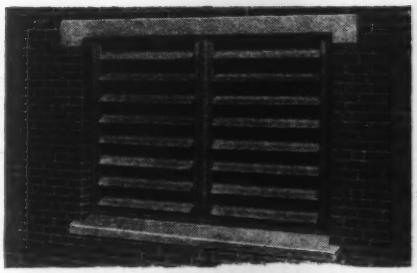

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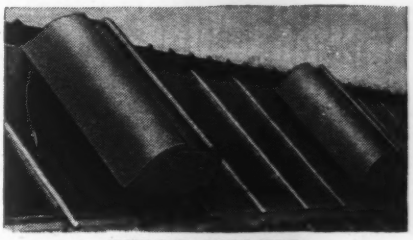

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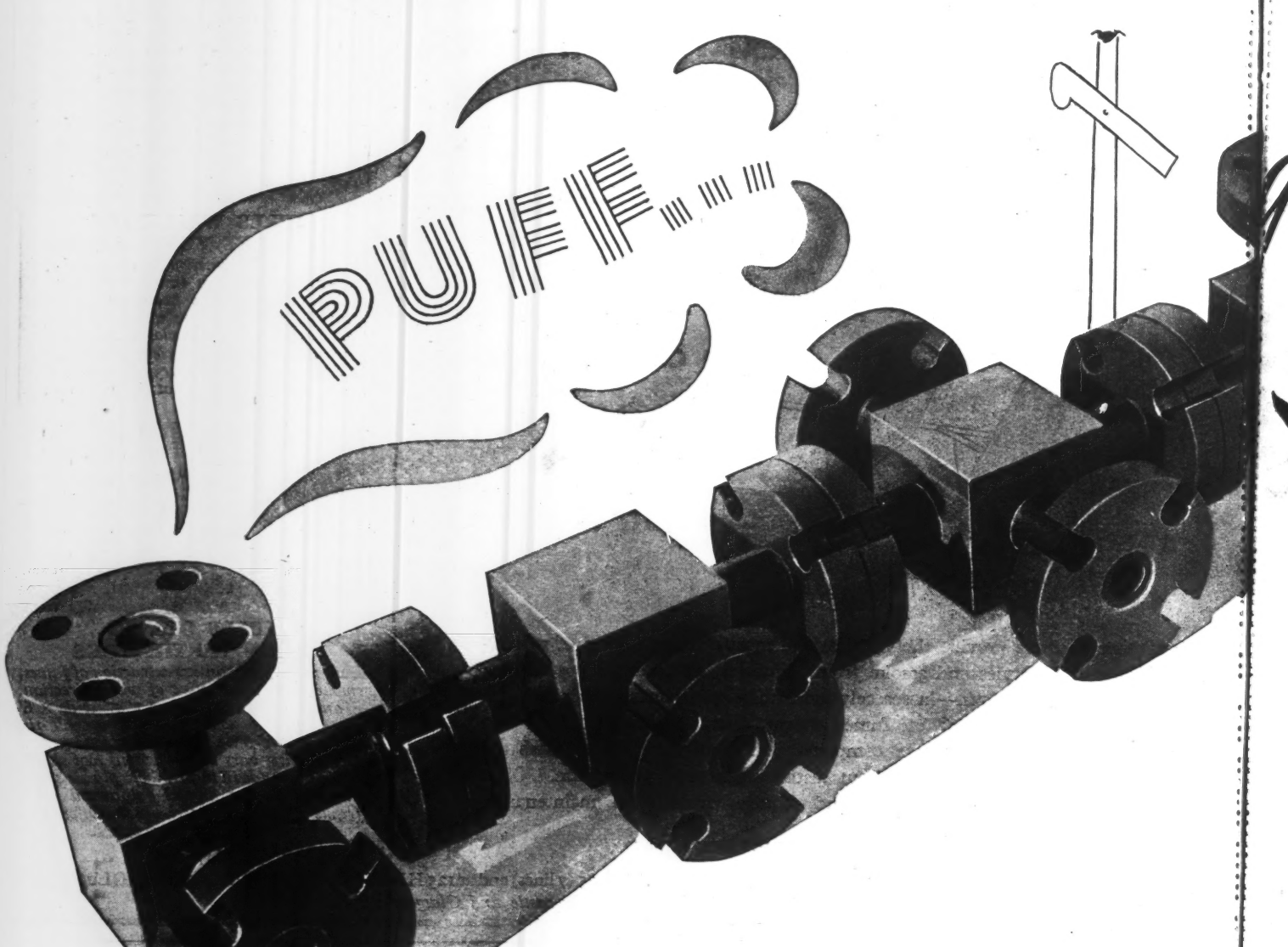

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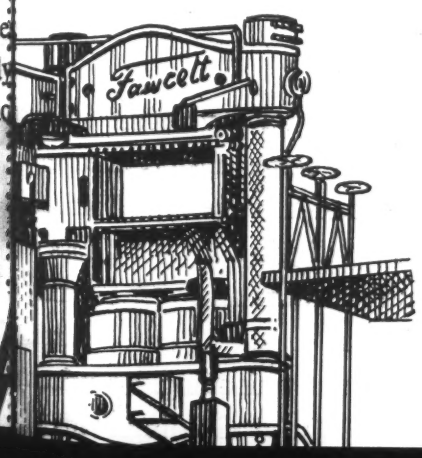

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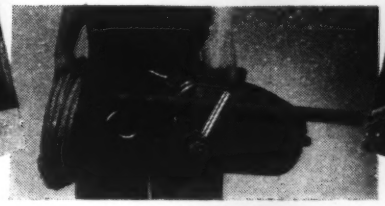

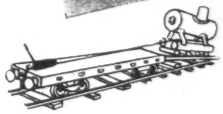

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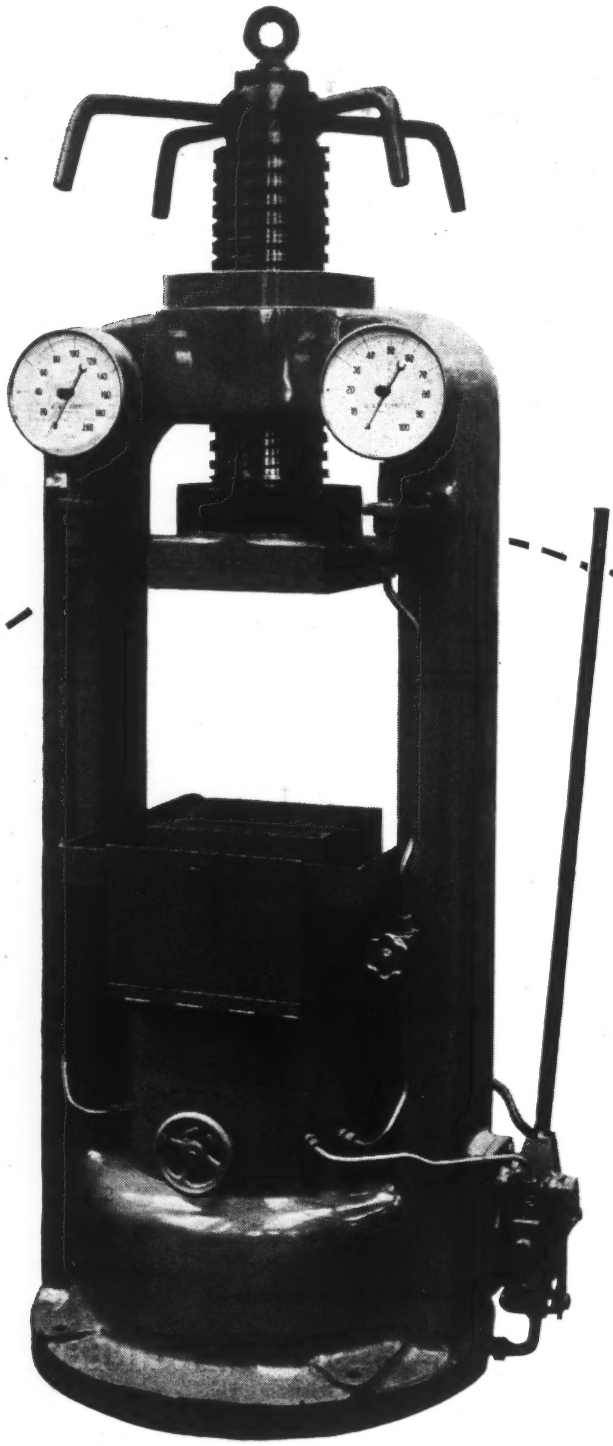

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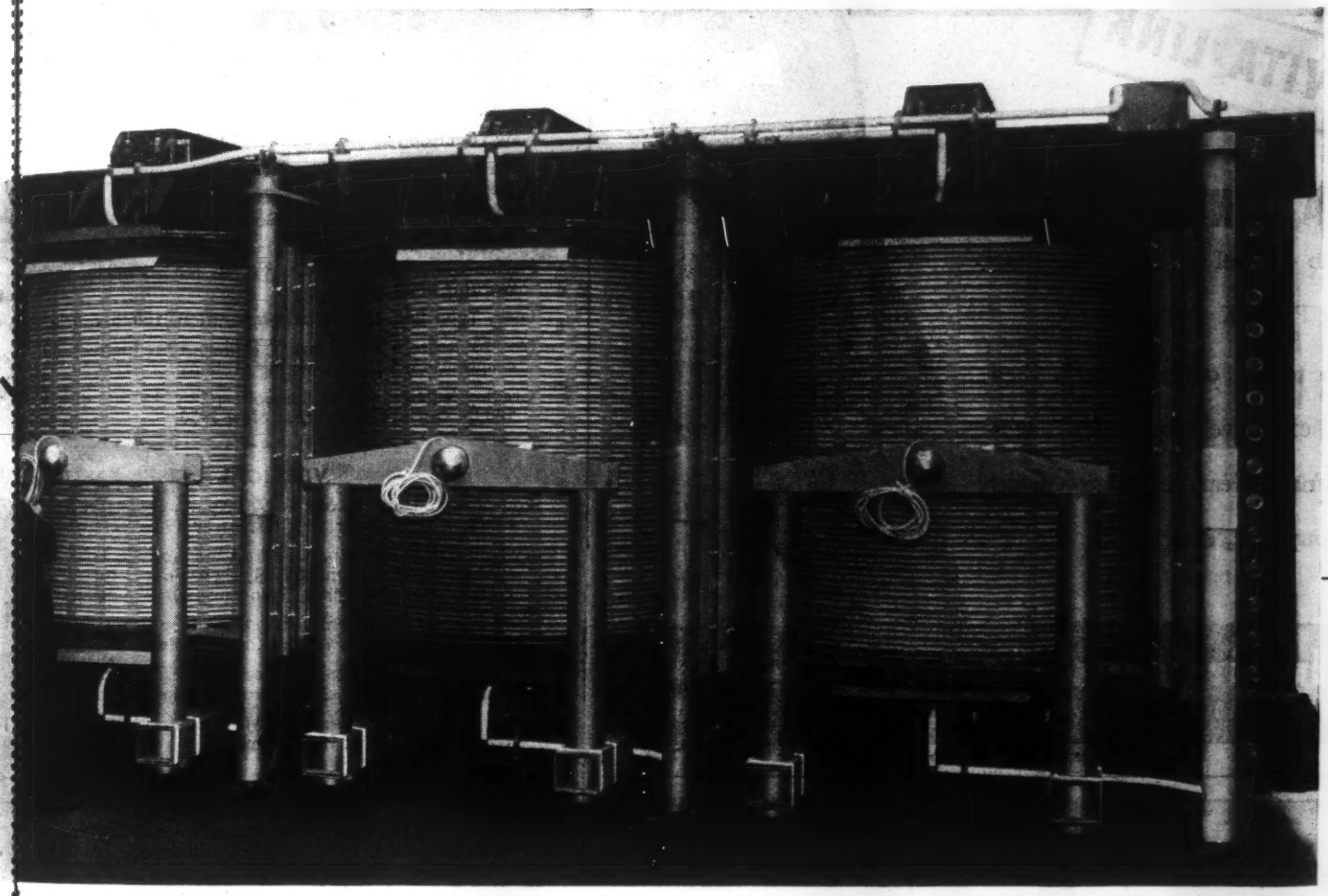

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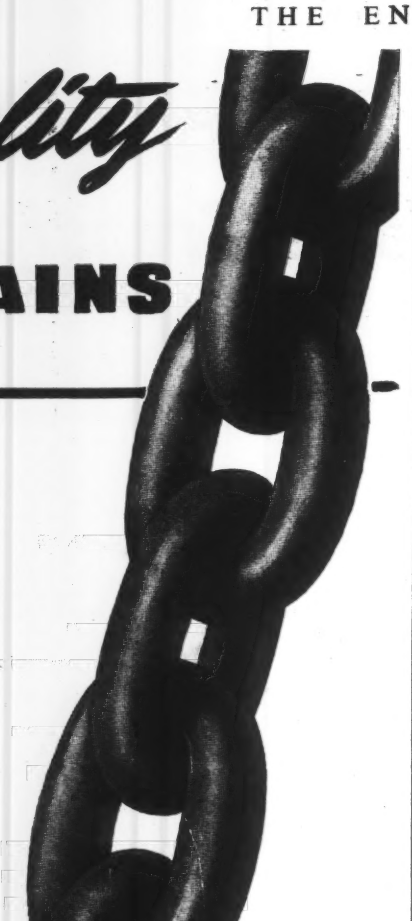

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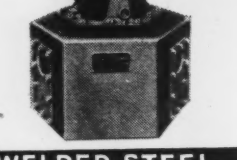

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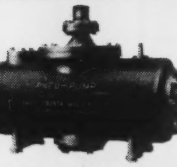

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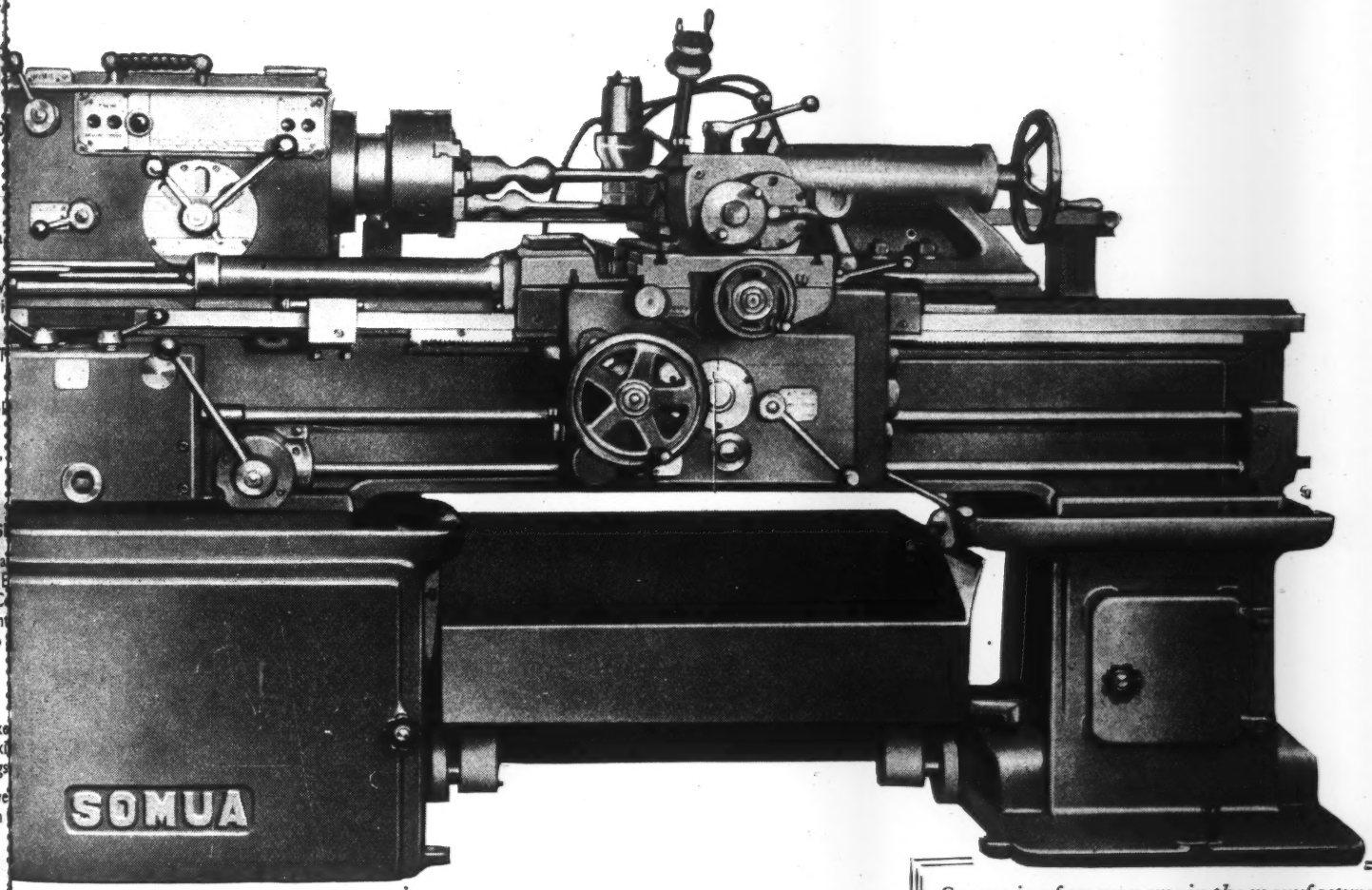

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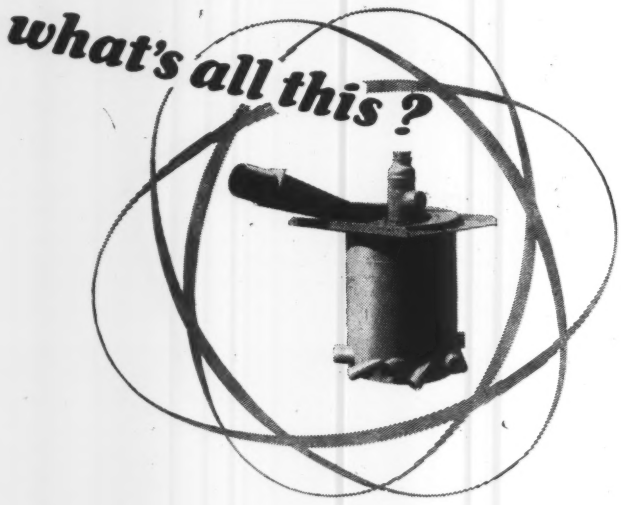

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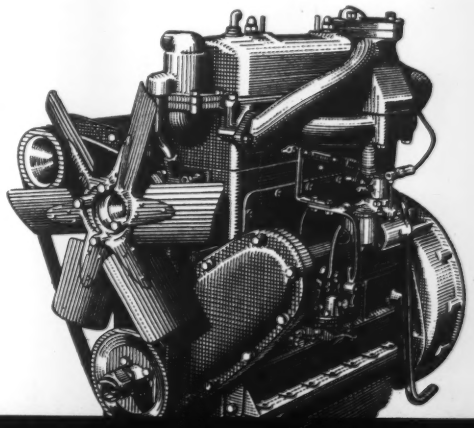

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